European Agency for Safety and Health at Work

Education – evidence from the European Survey of Enterprises on New and Emerging Risks (ESENER)

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Executive Summary

Introduction

This report provides a comparative analysis of the European Survey of Enterprises on New and Emerging Risks (ESENER) findings for the education sector in several key areas of occupational safety and health (OSH) management, including psychosocial risks, drivers and barriers for OSH management, as well as the involvement of workers. In doing so, the study compared the ESENER results between 2014 and 2019 for the education sector, compared the education sector to other sectors, and assessed new topics covered by ESENER 2019 such as digitalisation and OSH, the perceived quality of external preventive services and the monitoring of sickness absences, while also considering the implications of the changing work environment since the onset of the COVID-19 pandemic.

The responses from the education sector to ESENER shed light on the extent of actions and measures adopted to secure a safe work environment. To a certain extent, these can be considered in the context of the EU Framework Directive 89/391/EEC on health and safety and supporting national or sector specific legislation that aims to encourage the introduction of measures to improve OSH.[1] However, the results should be considered as providing insight into the drivers and barriers of OSH management in the education sector rather than providing certainty around the level of legal compliance.

In addressing the research questions, the study used several analysis methods to identify the main OSH trends, including bivariate analysis of the ESENER results, literature review, and case study research on OSH risks and practices at different levels of the education sector in five countries. In addition, regression analyses using the ESENER dataset were used to test questions exploring the factors likely to promote good OSH management in educational establishments.

After distilling the main findings, a series of education sector-specific policy pointers were formulated for possible follow-up by Member States and relevant stakeholders.

The research findings suggest that there is need for a stronger OSH management response in the education sector. This suggestion is based on several findings that are outlined below and include issues such as identifiable gaps in the OSH management response between and within countries, the significant musculoskeletal disorders (MSDs) and psychosocial risks on the sector, the transformation of teaching due to digitalisation and the ongoing impact of COVID-19.

Key findings

The key findings are as follows:

- Through ESENER, the education sector recognised that significant OSH risks are endemic to their working environment, especially psychosocial risks, such as having to deal with difficult pupils and parents, or time pressure, and MSD risks, including prolonged sitting, repetitive hand or arm movements, as well as other risk factors, such as loud noise and so on.

- However, the results show that there are gaps in the level of risk awareness between establishments and countries, with a major share of educational establishments unaware of the risks that are recognised by experts and leading representatives as common to the sector.

- Yet, some of the gaps in the level of risk awareness can be partly explained by differences in the severity of risks across the sector; for example, establishments may or may not have specialised teaching units that use machinery or chemicals and so on, and tertiary education is much less exposed to difficult pupils.

- The onset of the COVID-19 pandemic has intensified the level of risks, especially those associated with digitalisation and MSDs. Among other things, this includes online teaching that demands stronger efforts in ensuring that pupils are attentive and productive, adding to workplace stress. Pressure has also been put on management by parents unsatisfied with decisions around school closures and other measures.

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[1] Directive 89/391/EEC - Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. Council of the European Union. https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A31989L0391 https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A31989L0391

- Good efforts have been made to perform regular risk assessments, with 77% of establishments reporting to do so — this positions the education sector just above the EU sectoral average for this practice.

- Yet, there seems to be some gaps in the focus and scope of risk assessments. There is a greater focus on safety and chemical risks, even though establishments acknowledge that the main risks are psychosocial and MSD risks. Moreover, digital tools, home working and persons not on the payroll are not frequently covered by establishments that use these working methods. While ESENER was completed in 2019, it seems that the OSH management system in educational establishments was not well positioned for the transformation of the teaching sector under COVID-19.

- When compared to other sectors, the education sector has performed well in encouraging employee health through measures such as healthy nutrition, sport activities, back exercises and so on. Yet, use of measures to support sustainable working lives by lowering MSD-type risks are on the decline, which does not seem to align well with the main risks facing the sector.

- While more than half of establishments have procedures to support employees to return to work after long-term sickness absences, these seem to be on the decline in countries that were less likely to adopt them — again, the potential stresses and consequences of teaching under COVID-19 do not seem to be managed upfront.

- EU social partners stressed the sectoral problems of the limited supply of teachers and poor staff retention that are partly due to poor perceptions of the working environment. This suggests that there are broader strategic reasons for investing in OSH management — that is, as a way to make the sector more attractive to new and existing staff.

- Regression analyses were used to identify the factors that may 'predict' the introduction of good OSH management practices in establishments. In doing so, the analyses used several models to test the relationship between dependent variables (e.g. such as regular completion of risk assessments) and independent variables (e.g. such as the size of establishments). Helpfully, the models provided some clues on the approaches that may increase the likelihood of the introduction of OSH management practices in educational establishments, for example:

- Data analysis indicate that companies regularly conducting a workplace risk assessment are usually those that have appointed OSH representatives and have undergone inspections.

- Data analysis indicate that companies addressing digitalisation risks are usually those that have appointed OSH representatives and OSH is regularly discussed at top management level. A psychologist or occupational health doctor can assist in the identification of psychosocial risks.

- The analysis also revealed that the inclusion of supervisor–employee relationships in risk assessments is related to the introduction of measures to manage psychosocial risks such as increasing decision authority, training on conflict resolution, confidential counselling and measures to reorganise work.

1 Introduction

1.1 Key features of the study on the education sector and ESENER

This study is part of a series of European Agency for Safety and Health at Work (EU-OSHA) research assignments that is using evidence from the European Survey of Enterprises on New and Emerging Risks (ESENER) and other complementary sources to explore sectoral occupational safety and health (OSH) trends and practices in depth (EU-OSHA, 2022a).

For this report, the education sector has been investigated in-depth, which according to 2021 figures from Eurostat[2] provides employment to 7% of the EU workforce and is central to forming a skilled and productive workforce and the advancement of society generally.

The research had a specific focus on several key OSH risks facing the education sector, such as musculoskeletal disorders (MSDs), psychosocial risks, risks due to digitalisation and the recent transformation to homeworking due to the COVID-19 pandemic.

As explained in Chapter 2 on the conceptual framework, the study was guided by multiple research questions in the areas of risk awareness, OSH management and risk assessment, including psychosocial and digitalisation risk management, barriers and drivers to OSH management, and employee representation and OSH.

The study used several data analysis methods to determine the main OSH trends, including bivariate analysis of the ESENER results, and a literature review. The project also included case study research on OSH risks and practices in five countries, namely Denmark, Germany, Ireland, France and Italy, that included desk research and interviews with national stakeholders to explore the main risks and OSH management practices used at different levels of the education sector.

Moreover, using logistic regression, the study addressed several research questions exploring the factors likely to promote good OSH management in establishments. This analysis used the evidence from the ESENER 2019 dataset relating to the education sector, including both responses to specific OSH-related questions and other contextual information on educational establishments such as their country location and size.

The main findings were used to develop education sector-specific policy pointers that may be helpful for review by Member States, which are indicated at the end of the report.

1.2 Overview of ESENER

ESENER is a large-scale, multinational survey of public and private establishments. ESENER which has been implemented in 2009, 2014 and 2019.[3]

ESENER plays a key role in the monitoring of OSH in Europe. By collecting feedback from the 'person who knows best about OSH' in establishments, ESENER provides unique insights into how health and safety is actually managed in the workplace. In particular, ESENER fills an information gap on the presence of health and safety risk factors and the methods and steps taken in managing them.

Although extensive EU legislation to improve OSH has been introduced since the 1980s, including the Framework Directive 89/391/EEC and other supporting directives, the implementation of these provisions differs among Member States, although in some cases this can be accounted for due to differences in their adoption, for example, by sector and establishment size. While ESENER does not provide information on the extent of legal compliance per se, it provides a good indication of the necessary actions taken to fulfil OSH obligations and support the development of safety cultures.

Moreover, ESENER 2019 is well placed to provide longitudinal monitoring of OSH management in Europe though comparisons with the prior wave, ESENER 2014.[4] This is possible due to the consistency of the approaches used by these waves, including:

- using a largely uniform set of survey questions;

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[2] https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_egan2&lang=en
[3] ESENER Methodology: https://visualisation.osha.europa.eu/esener/en/about-tool
[4] There are some key differences in the approach taken by the first wave, ESENER 2009. While the occupational safety and health (OSH) themes covered were similar, the questions used were worded differently. Two survey interviews were conducted in ESENER 2009: one with the highest-ranking person responsible for OSH; the other with an employee representative for OSH. Establishments with 10 or more employees were interviewed. NACE sectors B-S were covered.

- interviewing a single respondent per establishment — that is, 'the person who knows best about OSH';
- sampling establishments with five or more employees; and
- coverage of a common set of sectors, NACE Rev. 2 sectors, A to S. All activity sectors except for private households (NACE T) and extraterritorial organisations (NACE U).

1.3 Key features

The remainder of this report is organised as follows:

- **Chapter 2: Conceptual framework** sets out the study approach, the main areas of investigation and some key features of ESENER data connected to the education sector.
- **Chapters 3: Literature review** provides an overview of the work environment in the education sector and of the previously documented main OSH risks in the education sector, including psychosocial risks such as work organisation and job content, ergonomic factors, noise and so on.
- **Chapter 4: Health and safety risks in the education sector** sheds light on the type and extent of risks facing at least some staff in educational establishments, including safety, ergonomic, chemical and psychosocial risks.
- **Chapter 5: OSH management and risk assessment in the education sector** examines the education sector's approach in conducting risk assessments, the level of commitment towards OSH, the approach to monitoring OSH, the methods taken for the management of employee health and the uptake of OSH advice.
- **Chapter 6: Psychosocial risks and digitalisation** explores the education sector's prioritisation of the management of psychosocial risks, whether measures have been adopted to manage such risks, the digitalisation trends in the workplace and their consideration in an OSH management context.
- **Chapter 7: Drivers and barriers to OSH risk management in the education sector** focuses on the aspects that may encourage or discourage educational establishments from fulfilling their OSH duties.
- **Chapter 8: OSH employee representation in the education sector** explores the role of employee involvement in OSH management in the education sector and how it is implemented in practice.
- **Chapter 9: Conclusions and policy pointers** provides an overview of the main findings and some pointers on areas of OSH policy and management that if strengthened would help to realise better results in the education sector.

2 Conceptual framework

2.1 Key aims and research questions

The specific aims of this study were as follows:

- use ESENER data to provide a comparative analysis of the 2019 and 2014 findings for the education sector;
- compare the education sector with other sectors concerning the adoption of OSH management practices; and
- conduct both bivariate and multivariate analysis of the ESENER results, in the areas of: 1) OSH management, 2) psychosocial risks and digitalisation, 3) drivers and barriers, and 4) worker participation.

In line with the study aims, and to make best use of ESENER data on the education sector, several research questions were developed, as indicated in Table 1.

Table 1: Key research questions

Policy area	Key questions
Risk assessment and OSH management in the education sector	1. What are the main recognised physical risks in the education sector? What measures have been introduced to reduce physical risks? 2. What is the rate of completion of education sector workplace risk assessment? Who carries out the assessments? What are the main drivers and obstacles to completing risk assessments? What items and persons are included in risks assessments? 3. What types of internal and external resources, information and services are used to support OSH management in the education sector? 4. Do educational establishments have access to the necessary support and information to manage OSH-related risks? 5. What is the rate of visits conducted by the labour inspectorate in the education sector? Do inspections predict good compliance on other OSH management performance measures? 6. What methods are adopted to promote good OSH management by employees in the education sector? 7. What is the rate of reported workplace accidents in the education sector? Is the rate of absenteeism changing over time? Are procedures used to manage the return of long-term absentees? 8. What is the level of management commitment towards OSH in the education sector? 9. How prevalent is the use of training on OSH issues for staff in the education sector at different levels?
Psychosocial risks and their management	1. What are the main recognised psychosocial risks in the education sector? 2. Are relevant procedures established to address psychosocial risks in the education sector? 3. What measures have been adopted in the education sector to address psychosocial risks? 4. To what extent are risk assessments and action plans being used to address psychosocial risks in the education sector? 5. What is the prevalence in the education sector of evaluation of working schedules and routines to manage work-related stress and so on? 6. Are psychosocial risks easier or harder to manage than physical risks in the education sector?
Digitalisation and OSH management	1. What digital technologies are used by the education sector? 2. What is the frequency of use of digital technologies in the education sector that may result in OSH risks? 3. Are the OSH-related impacts of such technologies discussed in the education sector? If so, which impacts are mainly discussed?
Drivers and barriers to OSH risk management	1. What are the main drivers for OSH management in the education sector? 2. What are the main barriers to OSH management in educational establishments? Do legislation and paperwork remain as key difficulties?

Policy area	Key questions
Employee representation	1. What are the formal types of employee representation in the education sector? 2. Are employees in the education sector involved in the development of workplace risk assessments? 3. Are employees in the education sector involved in the design and set-up of measures addressing physical and psychosocial risks? 4. Is there a link between employee representation and whether the possible impacts of the use of technologies on health and safety of employees are discussed in educational establishments?
Research questions	**Key questions**
Regression questions	1. What conditions (external, internal) are associated with the completion of risk assessments? 2. What conditions are associated with coverage of remote workplaces in risk assessments? 3. What conditions, internal establishment or external factors, are associated with the involvement of employees in the design of measures following a risk assessment? 4. What conditions are associated with the managerial commitment to OSH? 5. How the inclusion of supervisor–employee relationships and organisational aspects into risk assessment as well as the existence of an action plan to prevent work-related stress is associated with the lack of reporting on psychosocial risks? 6. What factors are associated with the introduction of measures to address psychosocial risks? 7. Which are the main factors that are associated with the perception that psychosocial risks are more difficult to manage than other risks? 8. Is the use of particular digital technologies (and types) associated with the type of OSH impacts that are discussed in meetings? 9. What conditions are associated with the perception that the complexity of legislation is a main barrier in addressing health and safety? 10. What conditions are associated with the perception that legislation is a driver of compliance? 11. What conditions (related to employee or to employer) are associated with the adoption of an employee health and safety representative?

2.2 Study methodology

The methodology comprised two main strands of qualitative and quantitative research.

The results of these strands were brought together in summary analyses that introduce each chapter and highlight the main approach and gaps around how OSH is managed in the education sector. These summary analyses were used to develop the conclusions and policy pointers section and are indicated at the end of this report.

The quantitative research included bivariate and multivariate analyses of the ESENER 2014 and 2019 data corresponding to the education sector (see chapters below)

The bivariate analysis used country and organisation size data from the ESENER 2014 and 2019 surveys to provide an analysis of change over time for each of the key ESENER questions for the EU-27, by country and also by organisation size. The ESENER questions cover several key areas of OSH policy and management, including:

1. traditional and emerging health and safety risks in the establishment;
2. day-to-day OSH management: OSH expertise and general policy;
3. risk assessment practices;
4. drivers and barriers to OSH management;
5. psychosocial risks and digitalisation; and
6. employer participation in OSH issues.

In addition, several composite indicators were developed using ESENER 2019 data to communicate policy area progress in the areas mentioned above. The composite indicators rank the performance of the education sector internationally against other countries, and nationally against other sectors. The methodology for the composite indicators is included in the Annex.

Regression models were developed using the information from ESENER to explore the relevant research questions indicated above. The idea was to learn what key establishment characteristics 'predict' the adoption of good OSH management practices in the education sector. We also considered if the 'context' played a role in determining the outcomes explored — that is, the size of establishment, the sector and country. The regression results are reflected upon in Chapters 5 to 8.

The qualitative research involved a literature review (Chapter3) and country case research. To get a good overview of the main OSH trends, the literature review focused on reviewing the results of meta-reviews or large-scale statistical analyses of OSH risks facing the education sector. The country case research focused on several countries (Denmark, Germany, Ireland, France and Italy) and involved 15 in-depth interviews with representatives from different levels of the education sector. The idea was to build on the themes covered by ESENER around the main risks, the approach and challenges in managing OSH, and also specific issues related to OSH that have emerged since the COVID-19 pandemic began (see the Annex for the main conclusions of the countries' case studies).

The study also interviewed two EU industry organisations, the European Trade Union Committee for Education (ETUCE) and the European Federation of Education Employers, to explore their views on the study results and obtain advice on the most pressing concerns facing the sector and its transformation to online learning since the start of the pandemic.

2.3 ESENER 2019 and the education sector subset

ESENER 2019 gathered data from 45,420 establishments employing at least five people across all activity sectors from the EU-27, Iceland, North Macedonia, Norway, Serbia, Switzerland and the United Kingdom (EU-OSHA, 2022a).

For this study, results from the education sector were analysed that included 3,540 responses across 33 European countries. In some cases, the number of education establishment responses per country was too small to be considered as statistically representative. Therefore, while most countries were analysed independently, seven countries were grouped together into a category called 'Other'.[5]

Similarly, given the size of the sample, the analysis of responses according to the size of the establishments was modified with the comparison of the results between two categories, larger establishments and smaller establishments.

The smaller establishments category included the subgroups of small organisations with 10 to 49 employees and micro-organisations with 5 to 9 employees.[6]

The larger establishments category included two subgroups, aligned with the EU SME definition for enterprise size categories, that is, large organisations with 250 or more employees and medium-sized organisations with 50 to 249 employees.

The ESENER survey covered establishments of all educational levels but due to the NACE classification level used, further information was not collected on the specific level of the establishments (such as primary schools, high schools, universities, etc.). Therefore, only aggregated survey results for the education sector are presented. Further information on data processing is included in the Annex.

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[5] The countries included in the 'Other' category include: Croatia, Cyprus, Estonia, Iceland, Latvia, Lithuania, Malta and North Macedonia.

[6] These subgroups correspond to the EU's definition for micro, small and medium-sized enterprises: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32003H0361

3 Literature review – work environment in the education sector

3.1 Introduction and search strategy

This review gives a brief introduction to a broad topic: the work environment in the education sector in Europe. As the review covers a broad field of topics, the approach used for the review was a traditional narrative literature review approach. Emphasis is on the OSH risk factors that are most salient to the education sector, although some lesser factors have been considered that may be present in some establishments.

We used multiple sources to search for articles in this review. Firstly, we used Scopus for a structured search based on Boolean operators. We designed a search string with three different lines of synonyms: one with various search terms for our target population (teachers and university professors), one with various search terms for OSH-related topics, and finally one to only search for reviews or similar studies. In Table 2 you will find the two lines of synonyms. We chose to search the whole texts for the first two and only search for review-related terms in abstracts, keywords or titles. This search resulted in 187 hits, of which nine sources were included in the review.

Table 2: Search strategy

Target group identifiers	OSH-related search topics	Review
Teacher* OR education* OR professor* OR schoolteacher*	Safety OR "health and safety" OR health OR "occupational health and safety" OR "occupational safety and health" OR risk OR "work environment" OR "working environment" OR OSH OR OHS OR "working conditions" OR ergonomics* OR MSD OR "musculoskeletal disorders" OR "Sustainable work" OR Psychosocial OR Psycho-social OR "Mental health" OR COVID-19 OR Corona	Review OR meta-analysis OR meta analysis OR literature study OR literature-study

To make sure that we included as many relevant sources as possible, we also made a so-called snowball search on top of the structured approach for the search. To do this, we used Google Scholar to find articles that were cited or were citing especially poignant reviews or studies. This snowball search resulted in the identification of approximately 600 titles as potentially relevant. We ended up including 55 of these in the final review. The primary search was limited to the years from 2013 to 2021, however, some relevant references from earlier studies were included as well. The review contains references to descriptive studies as well as studies of cross-sectional and prospective associations. We mainly included reviews or meta-studies. However, for some topics, and in the case of COVID-19, we also included single studies because no reviews existed at the time of searching because of the topic's novelty.

Based on the selected studies, psychosocial issues were identified as the most prevalent and most studied risk factors in the education sector. Further, ergonomic issues and exposure to noise were found to be relevant risk factors in the education sector. Accordingly, we have summarised the findings in terms of risk categories such as: 1) psychosocial factors, 2) ergonomic factors, 3) noise, and 4) other risk factors. Each section describes the risk factors and consequences for health and wellbeing and possible prevention steps.

3.2 Psychosocial factors

To frame the approach to examining psychosocial risk factors, we undertook some prior research on how such reviews have been conducted previously.

Psychosocial factors cover a range of different aspects describing characteristics of the work environment — either the job, the organisation of work, the social relationships at work, or the interplay between work and individuals. Many of the psychosocial factors may act as either risk factors or resources that limit OSH risks. For example, high levels of influence (or autonomy) at work may, for example, be a resource, while low influence may simultaneously be a risk factor. Likewise, high levels of social support can be a resource while low levels of social support can be a risk factor.

A recent meta-review summarised results from reviews covering 16 different dimensions of exposures in the psychosocial work environment and 38 different health and wellbeing outcomes studied (Niedhammer et al., 2021). The authors summarise that 'associations were mainly significant between psychosocial work exposures and cardiovascular diseases (CHD and stroke) and mental disorders, particularly depression, based on the highest quality reviews' (p. 499). The associations varied according to the studied exposure-outcome. The importance of effective management of psychosocial risks as well as drivers and barriers have been examined in the past, based on ESENER data (EU-OSHA, 2018a; EU-OSHA, 2022b).

Psychosocial work environment

There may be different ways to describe and categorise the many different psychosocial work environmental factors. Different tools for measurement of the psychosocial work environment are available internationally. One of the questionnaire tools that has shown to be very robust and useful for occupational risk assessment and research in a range of different settings is the COPSOQ questionnaire. It has been translated into 18 different languages and used in at least 40 countries worldwide. The COPSOQ was originally developed and tested in a first version in 1997 (Pejtersen et al., 2010), and is now available in a third version (Burr et al., 2019) developed by an international group of researchers. Within the approach taken by the researchers behind the questionnaire, the psychosocial work environmental factors can be categorised into six overall groups:

1. demands at work, covering dimensions such as quantitative, work pace, emotional demands and demands for hiding of emotions;
2. work organisation and job content, covering dimensions such as influence and possibilities for development at work;
3. interpersonal relationships and leadership, covering dimensions such as social support, quality of leadership and role conflicts;
4. work–individual interference, covering aspects such as work–life conflict, job-satisfaction and commitment;
5. social capital, referring to the organisational culture, particularly the level of trust, justice and inclusiveness within the whole organisation; and
6. offensive behaviours, covering issues of threats, violence and bullying.

Further, to cover possible individual consequences of the work environment, they include a seventh dimension of:

7. *health and wellbeing*, covering, among others, burnout, stress and sleeping problems.

We have followed this categorisation in the presentation of the results concerning psychosocial issues in the education sector.

Studies have found that the psychosocial work environment does not only vary with occupation but also to a large extent from organisation to organisation (Berthelsen et al., 2017). However, only few quantitative studies take possible differences at the organisational level into account. Thus, the review is primarily based on large epidemiological studies, reviews and meta-analyses, describing the work environment and possible consequences for health and wellbeing for the average individual employee in different parts of the education sector.

3.2.1 Demands at work

Demands at work may take different forms. Demands may be related to the amount of work, the tempo of work, the cognitive demands, the emotional demands required to work with other people, or whether employees hide or manage their emotions to perform the job.

In the education sector, demands will often be different per task: preparation, teaching, feedback on pupils'/students' work, administration, internal meetings, and meetings with, for example, pupils and parents. Together, these often result in significant time pressure, and because preparation and feedback on pupils'/students' work can be completed outside of normal work hours, overtime work can become quite routine.

Furthermore, different demands may be contradictory, for example, as described in the German case study: teachers are expected to maintain a high standard of teaching quality even if the number of pupils increases or if the cultural background of the children changes, thus demanding additional effort to obtain the same results.

Inclusion and education of pupils or students with special needs or with different cultural backgrounds are tasks that are often emotionally demanding (identified in the cases, for example, from France or Italy). The term 'emotional demands' refers to the management of difficult emotions experienced by pupils/students and parents, and also to the management of one's own emotions that are not suitable, for example, for a teaching situation or for the pedagogical goals or tasks. However, emotional demands are more associated with working with children at primary and secondary levels and less so in higher education.

In the literature research, demands have often been measured in combination with autonomy and combined in a measure of job demands/control or job strain. Demands concerning the amount of work and tempo of work have been intensively studied and found to be associated with a range of different health outcomes, and in recent years emotional demands have also gained more attention as a predictor of poor health outcomes (Niedhammer et al., 2021).

Quantitative demands and tempo

The sixth wave of the European Working Conditions Survey (EWCS), 2015, included data from 43,850 workers in 35 European countries. Data from this study suggest that the education sector compared to other sectors is characterised by below-average levels of work intensity (quantitative demands, pace determinants, and interdependency and emotional demands) (Eurofound et al., 2017). However, the sector scores at the high end on handling angry clients (i.e. pupils/parents) and emotionally disturbing situations (Eurofound et al., 2017), showing the underlying psychosocial risks present in educational establishments.

The Danish National Working Environment Survey (DANES, 2018) comprises data from a representative sample of 35,000 wage earners divided into 33 different occupational sectors, one of them covering 3,520 employees from the education sector and another covering 864 employees from universities and research. According to this database, the education sector scores the highest on the issue of not having enough time to perform work tasks. The university and research sector score as the fourth highest on this dimension. However, the two sectors are not among the top 10 on the question of tempo in performing work tasks.

These results are parallel to the findings from the Eurofound study of living and working conditions under COVID-19. This study finds that the education sector is the highest-scoring sector on the issue of not having enough time to get the job done (Eurofound et al., 2020).

A Swedish study from 2019 on 478 elementary teachers found that work pace is high in the sector, particularly among female teachers. Further, it was reported that teachers have good general health but experience high stress, high emotional demands, low influence at work and a poor psychosocial safety climate, and that both female and male teachers experience good development possibilities and high work engagement (Boström et al., 2019).

Regardless of the level compared to other sectors, time pressure has shown to be a negative predictor for teachers' wellbeing in a sample of 760 Norwegian teachers (Skaalvik & Skaalvik, 2018). In a Swedish study among 2,732 teachers in 205 school units, high job strain at the individual level was associated with higher levels of perceived stress and depressed mood (Ramberg et al., 2021).

Emotional demands

Emotional demands (or emotional labour) is well known and recognised as a working condition in the education sector (Eurofound et al., 2020), but the implications for health and wellbeing among teachers are not so straight forward (Wang et al., 2019). Results from a review on the topic suggest that there is an intertwining of structural- and interactional-level expectations for emotional labour among teachers, and that this intertwining fosters close and complicated relationships with teacher burnout (Bodenheimer & Shuster, 2020).

A meta-analytic review of the associations between teachers' emotional labour strategies (i.e. surface acting, deep acting and the expression of naturally felt emotions) and other relevant constructs was based on 85 empirical articles and 86 independent samples, with the experiences of 33,248 teachers represented in the articles reviewed. The study found that surface acting was positively related to the individual and interpersonal components of burnout and negatively related to teaching satisfaction. Deep acting was not significantly related to the individual or interpersonal components of burnout, but it was positively related to teaching satisfaction and the efficacy component of burnout. The expression of naturally felt emotions was negatively related to teachers' burnout and reduced teaching satisfaction (Yin et al., 2019).

A large study (N=26,410) from Denmark with a representative sample found both perceived and content-related emotional demands at work predictive of long-time sickness absence, also after adjustment for baseline depressive symptoms, supporting an interpretation that high emotional demands may be hazardous to employees' health (Framke et al., 2019).

Another prospective cohort study from Denmark examining data from 1,521,352 employed individuals found high emotional demands associated with increased risk of long-term sickness absence compared with low emotional demands, after adjusting for age, sex, cohabitation, migration background, income and four possible effect modifiers. The association between high emotional demands and risk of long-term sickness absence was stronger when individuals experienced limited prospects for professional development and workplace conflicts. No synergy was observed for influence and physical demands at work. The results suggest that in emotionally demanding occupations, increasing possibilities for professional development and reducing work-related role conflicts might reduce long-term sickness absence (Framke et al., 2021).

Yin et al. (2019) showed a moderating relationship between so-called emotional intelligence and burnout syndrome caused by emotional labour. As such, it was recommended to train teachers in mastering their emotional resources and in recognising and mastering their own emotional responses to emotional job demands. Another study (reported in section 3.2.7) found that teachers' levels of emotional intelligence significantly moderated the indirect paths between perceived support from colleagues/supervisors and intentions to quit (Mérida-López et al., 2020). Whether training in emotional mastering is the right way to go in order to prevent burnout and retention can be discussed and explored in future studies.

3.2.2 Work organisation and job content

This dimension is about the organisation of work and the specific job content, the possibilities for influence, degrees of freedom, possibilities for development and variation within the work, and the experience of meaningfulness associated with work.

Traditionally, teaching has been associated with a high degree of influence over own work, due to the possibilities for the employee to organise and plan own tasks. However, among others, demands for more collaboration have pushed towards more coordination and complexity in the organisation of work, and may also have affected the experience of influence over own work. Often, jobs in the education sector have also been characterised by a high degree of meaningfulness because the core task of education, learning and shaping of the next generation is often experienced as meaningful.

However, data from a recent Eurofound study found that around 70% of the employees in the education sector reported their perceived feeling of doing a useful job, suggesting that less than a third had lost some meaning in this work. Still, the education sector was the fourth highest-ranking sector, following agriculture, construction and health (Eurofound et al., 2020).[7]

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[7] This study did not use the NACE statistical classification framework for sectors.

Impact of changes due to the COVID-19 pandemic

Furthermore, major changes in the organisation of work in the education sector have taken place since the COVID-19 pandemic began. Among other things, this change has increased the level of digitalisation in the education sector as well as 'blended education' — this latter term is used to describe the combination of online and offline education and hybrid learning. Some of these changes were accelerated by the pandemic but may very well be continued and amplified in the years to come as they can improve the efficiency of teaching and lower costs.

The demand for digitalised solutions has also called for new competences, such as enhancement of communication skills necessary for teaching. Many teachers have experienced both positive and negative effects associated with digitalisation, such as being able to share information but, on the other hand, difficulties around controlling classes.

Furthermore, digitalisation has been associated with higher levels of administrative tasks as well as tendencies towards a higher level of 'border-lessness' causing work life conflicts[8] and feelings of isolation (Eurofound et al., 2020). Furthermore, there is a risk that many teachers will not be aware of the problems associated with privacy and protection of data associated with the use of artificial intelligence (AI) systems and platforms in general (EU-OSHA, 2022).[9] It is likely that the increase in digitalisation since COVID-19 has impacted staff at primary and secondary education levels more heavily than at higher levels of education because relational work and social interaction may be more intimately associated with the learning process for the younger pupils (as identified in the case study from Italy).

The COVID-19 pandemic has not only affected staff but also to a considerable degree the leaders in educational establishments, due to parents' concerns around the health and education of their children.[10]

Studies from Denmark (Nabe-Nielsen et al., 2021) and Germany (Klapproth et al., 2020) show how COVID-19 affected teachers. In their paper from 2020, Nabe-Nielsen et al. (2020) examine public school teachers' emotional reactions to being frontline workers during the COVID-19 pandemic. The data comes from a cross-sectional study of 2,665 randomly sampled Danish public school teachers, who were surveyed after the first COVID-19 wave in May 2020. The study shows that the prevalence of emotional reactions was quite high among teachers. Teachers aged 50 or older reported higher levels of worry about going to work or about getting infected than their younger colleagues. These results correspond to the results of similar studies of people employed in eldercare. Likewise, the prevalence of worries about transmitting the disease to students and pupils were also comparable to results from childcare workers. Knowledge about testing procedures and trust in colleagues' actions regarding safety and preventive measures are both related to lower levels of worry, whereas lack of access to personal protective equipment (masks, sanitiser, etc.) or exposure to infected individuals are related to higher levels of worry.

The study by Klapproth et al. (2020) examines the stress experienced by 380 German teachers related to online teaching during the lockdown, and the strategies they employed to master it. The teachers from higher education (grammar school) experienced significantly more stress than teachers from special education teaching and primary school.

Autonomy/influence

Evidence from the sixth wave of the European Working Conditions Survey suggests that the education sector compared with other sectors is characterised by above-average level of skills and discretion (decision latitude, organisational participation, training and cognitive dimension) (Eurofound et al., 2017).

This is in accordance with results from DANES (2018) that show the university and research sector among the five highest sectors on the issues of influence on how work tasks are solved and when they are solved. The remainder of the education sector scores just above the average on influence on how work tasks are solved and below average on when they are solved.

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[8] Information from interviews with key EU social partners.
[9] EU-OSHA – European Agency for Safety and Health at Work, Advanced robotics, artificial intelligence and the automation of tasks: definitions, uses, policies and strategies and occupational safety and health, 2022. Available at:
https://osha.europa.eu/sites/default/files/2022-04/Advanced%20robotics_AI_based%20systems.pdf
[10] Information from interviews with key EU social partners.

A Swedish study from 2019 among 478 elementary teachers found that female teachers reported lower influence than male teachers. Female teachers also reported higher emotional demands and a higher work pace than male teachers (Boström et al., 2019).

3.2.3 Interpersonal relations and leadership

Interpersonal relations and leadership refer to the internal relations within the organisation. This covers factors such as role clarity, role conflicts, reward, quality of leadership, and social support from colleagues and supervisors.

These are all aspects that may differ a lot from workplace to workplace, and sometimes even for different employees at the same workplace. This means that aggregated measures across different workplaces may cover huge variation, with some worksites scoring very high on these issues and other worksites obtaining much lower scores (Berthelsen et al., 2017).

Some general tendencies, however, may be related to the job. For example, social support and collaboration among colleagues in the education sector may be limited because the main part of the work is performed by the teacher working alone with the pupils/students.

This seems to be confirmed to some degree by the results from the sixth wave of the European Working Conditions Survey showing that the education sector in comparison to other sectors has a moderately strong social environment, for example, in terms of social support, management quality and adverse social behaviour (Eurofound et al., 2017).

In accordance with these results, data from the Danish National Working Environment Survey (DANES, 2018) show that the education sector obtained average scores on the level of collaboration and recognition from colleagues but significantly lower than the average level on help among colleagues to obtain the best possible results. The sector of universities and research does not differ significantly from the average level but scores among the lowest sectors on recognition from colleagues. Further, the education sector scores significantly below the national average with regard to quality of management (12-item scale), while the university and research sector does not differ from the national average on quality of management.

Among employees in higher education, other studies have found significantly higher levels of stress relating to work relationships, control, resources and communication, and significantly lower levels of commitment both from and to their organisation (Tytherleigh et al., 2005).

Quality of leadership has been found to affect stress and wellbeing among employees (Skakon et al., 2010). Although more research is still needed in this field (Nielsen & Taris, 2019), a large meta-review of studies concluded that the positive and negative behaviours enacted by leaders and the relationships they develop with subordinates were significant determinants of stress outcomes in staff (Harms et al., 2017).

Experience of imbalance between effort and reward as well as low reward by itself has in a lot of studies been found to be associated with negative health outcomes (Niedhammer et al., 2021).

Interestingly, a performance rating practice (mentioned in the German case study), entailing pupils or students rating their teacher's teaching performance, can for example have a high and sometimes very negative impact on the teacher's experience of reward — clearly, this is a case example but shows that the use of such tools can produce quite different outcomes for staff depending on the context.

3.2.4 Work–individual interference

Work–family conflict is known to be prevalent among knowledge workers with blurred boundaries between work and private life (Albertsen et al., 2010a), among highly educated workers and among workers with low education, and in precarious work with variable shifts (Schieman & Glavin, 2011). This may be the situation for many of the employees in the education sector. Furthermore, education is also a highly gendered profession with female teachers making up a high share of the workforce. And often, female workers bear the highest toll of family responsibility.[11]

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[11] Information from interviews with key EU social partners.

Data from the sixth European Working Conditions Survey (Eurofound et al., 2017) show that the group of 'Professionals' score above average on worrying about work while at home compared to other occupations, but the group scored below average on being too tired for housework and on having no time for family because of their job. This statistic may not reveal, however, large differences in the education sector and between countries. According to data from the Danish National Working Environment Survey (DANES, 2018), the education sector is the highest-scoring sector on work–family conflicts (time- and energy-related conflicts). Both the education sector and the university and research sector obtained high scores with regard to time-related conflicts. However, energy-related conflicts are not common within the university and research sector, while the education sector is the highest-scoring sector on this dimension.

A systematic review on the work–life balance among higher education teachers included findings from 53 articles. Results suggest that gender inequality, stress level at work and the absence of a healthy workplace impact on the work–life balance and consequently on the wellbeing of higher education teachers (Franco et al., 2021).

Work–life imbalance has been associated with, among other issues, sleep problems and use of psychotropics (Niedhammer et al., 2021).

3.2.5 Social capital

A study from Finland among 2,310 comprehensive school teachers found that receiving collegial support and acknowledgement, combined with a positive professional climate and ability to solve problems constructively, can function as inhibitors of both teacher-targeted bullying and exhaustion. The study further showed exhaustion and bullying to be significant determinants of teacher turnover (Pyhältö et al., 2015).

Multiple studies have found social capital to be positively associated with health and wellbeing both within and outside of the education sector. Among other things, a large review of 145 studies found social capital associated with better measures of physical health (Rodgers et al., 2019). Higher social capital at the workplace level has also been associated with, among others, less depression (Kouvonen et al., 2008), less use of psychotropic medication (Jensen, 2020), less stress (Egushi et al., 2018) and lower sickness absence (Rugulies et al., 2016).

Within the education sector, studies have found the level of social capital to be associated with students' achievement. A comparative study between states in the US showed a very close and very robust correlation between the level of social capital in each state and the quality of the educational institutions (grades, test scores, drop-out rates, etc.) (Putnam, 2001). Another large study compared the strength of professional communities among teachers in 24 US schools. Other studies have shown that social capital among teachers is associated with higher student achievement (Leana & Pil, 2006), and that professional capital promotes schools' ability to create equality through education (Chapman et al., 2016; Sanders et al., 2018).

A longitudinal study across three waves comprised data from 2,084 Australian and 829 Irish school principals, across six and two time points, respectively. Results indicated that principals who reported higher levels of either internal or external social capital also reported higher levels of wellbeing. More specifically, support from colleagues outside the school and supervisor support (external social capital) and collaboration and trust in management (internal social capital) predicted the level of wellbeing over time (Beausaert et al., 2021).

3.2.6 Offensive behaviour

The level of workplace violence in the education sector is above average when compared to other sectors. This includes both physical violence and psychological violence (bullying, harassment, mobbing, etc.), and in terms of violence from both colleagues and non-colleagues (Danau, 2021; ETUCE, 2009; Eurofound et al., 2017; Gervais, 2013).

Data from the Danish National Working Environment Survey (DANES, 2018) show that the education sector score as the second highest sector on physical violence (with 15% reporting episodes of threats at work within the last year) and the fourth highest in terms of the risk of threats (16%). With regard to bullying, results from this study show a significantly lower level than the national average (with 10% reporting episodes). However, the university and research sector is much lower on violence, threats and bullying. Yet, there may be large difference between different countries on this issue. A study from the

US among 2,998 kindergarten through 12th grade (K-12) teachers from 48 states revealed that 80% of teachers reported at least one victimisation, and of these teachers, 94% reported being victimised by students. Nearly three-quarters of all teachers were harassed at least once, more than half experienced cases involving damages to property, and 44% reported physical attacks (McMahon et al., 2014).

Studies have found a strong, positive relationship between workplace bullying and teachers' stress and depression (Dangleben, 2019) and between workplace violence and symptoms of depression and anxiety, burnout, psychological distress and sleep disturbance (Rudkjoebing et al., 2020). Related to this, a study from Finland among 2,310 comprehensive school teachers found exhaustion and bullying to be significant determinants of teacher turnover (Pyhältö et al., 2015).

A review from 2021 (Chirico et al., 2021) furthermore shows that the various forms of bullying, harassment and violence prevalent in the education sector are related to various symptoms of burnout syndrome. The review shows that teachers from all levels and grades (kindergarten, primary and secondary school) experience violence, and that the perpetrators can be students, parents or colleagues.

Examples from the country cases (for example, the cases from France and Ireland included in the Annex) show that offensive behaviour may not only concern pupils or students but often involves managers, colleagues or other employees.

Increased digitalisation has led to increased risk for offensive online behaviours directed at fellow pupils and teachers, in the forms of (cyber) bullying, harassment and negative statements, for example, on social media. For example, teachers may be encouraged to join social media to communicate school activities but may find themselves subject to significant pressure from one or more parents.[12]

A specific problem associated with violence and other offensive behaviours is the phenomenon of under-reporting, particularly when working with younger children with special needs. Offensive behaviour may be interpreted as a pedagogical failure, or there may be a culture of blaming the victims. However, it may also have to do with a lack of available reporting systems in education institutions, or with lack of knowledge or procedures to help solve the problems should they arise.[13]

3.2.7 Health and wellbeing

Health and sickness absence

Results from the Danish National Working Environment Survey (DANES, 2018) showed that the education sector obtained average scores for the level of self-rated health, mental health, work-related diseases and pain. However, the sector scored significantly above the national average level on symptoms of depression, stress and anxiety. Similarly, the university and research sector ranked as an average sector on measures of mental health, depression and anxiety, but it is significantly above the national average on stress and on self-rated health and below the national average on work-related diseases and pain. Thus, both sectors are challenged by stress, and the education sector in addition by symptoms of depression and anxiety.

The Eurofound survey of living and working conditions under COVID-19 found that 27% of the employees in the education sector reported feeling emotionally drained by work (Eurofound et al., 2020). The sector scored just below the health, commerce and hospitality sectors. Furthermore, 15% of the employees in the education sector reported feeling isolated while working (Eurofound et al., 2020).

A German study based on a selective review of the literature (Niedhammer et al., 2021) and data derived from the German statutory health insurance scheme found that German teachers, compared to the general population, had a more healthy lifestyle and a lower frequency of cardiovascular risk factors (except hypertension). However, according to teachers' own reporting, musculoskeletal and cardiovascular diseases are the most frequently reported health issues. According to wider literature, mental and psychosomatic diseases are more common in teachers than in non-teachers, as are non-specific complaints such as exhaustion, fatigue, headache and tension. The number of teachers taking early retirement because of illness has declined, and the main reasons for early retirement are mental and psychosomatic illnesses, which together account for 32-50% of cases (Scheuch et al., 2015). Mental

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[12] Information from an interview with a key EU social partner.
[13] Ibid.

disorders are also confirmed as the main medical cause of illness-related retirement in the education professions by Habers and Achterberg (2012).

Furthermore, Maguire and O'Connell (2007) also reported mental health as the biggest single factor (46%) for teachers seeking early retirement on ill-health grounds.

Burnout

Burnout is well known to be prevalent in the human services sector (Maslach, 1999), and reviews point to the findings of high risk of burnout syndrome among secondary school teachers (García-Carmona et al., 2019) and among university teaching staff (Watts & Robertson, 2011). In their review, Chirico et al. (2021) found 13 studies that all explored the relationship between burnout syndrome and various forms of physical and psychological violence in the education sector. One study established that depersonalisation is a significant predictor of experienced workplace bullying, while two others found positive relationships between workplace violence and symptoms of emotional exhaustion. The 10 remaining studies all showed significant correlations between various forms of physical and psychological violence and symptoms of burnout syndrome (Chirico et al., 2021).

A recent, large meta-analytic study (Madigan & Kim, 2021) examined the relationship between burnout and teachers' intentions to quit. They found that each of the three dimensions of burnout (exhaustion, depersonalisation and reduced accomplishment) showed significant positive relationships with teachers' intentions to quit, and further they found evidence that the strength of these relationships had increased over time. Job satisfaction showed a significant negative relationship with teachers' intentions to quit, but the authors concluded that burnout may confer a greater risk than what job satisfaction can offer in protecting from that risk (Madigan & Kim, 2021).

In a review by Watts et al. (2011), it is reported that university professors experience burnout syndrome comparable to other human services professions such as teaching, medicine and other professions with higher risks of burnout syndrome. The review also shows that age and gender are two moderating factors, as younger professors are more likely to experience burnout, and that male employees score significantly higher on the symptom of depersonalisation and females score higher on the symptom of emotional exhaustiveness.

Protective individual and collective resources

A study from Spain among 1,297 teaching professionals working at preschool, primary and secondary schools demonstrated that work engagement entirely mediated the relationship between social support from colleagues/supervisors and intentions to quit. Work engagement was measured using a scale encompassing three items about individual perception of vigour, dedication and absorption. Furthermore, the findings showed that teachers' levels of emotional intelligence significantly moderated the indirect paths between perceived support from colleagues/supervisors and intentions to quit. Teachers with the lowest levels of work engagement reported low support from colleagues or supervisors, together with low emotional intelligence. Similarly, highest intentions to quit was reported by those teachers reporting low work engagement and low emotional intelligence (Mérida-López et al., 2020).

Working time and form of employment

Results from the sixth wave of the European Working Conditions Survey suggest that the education sector is an average sector when compared with other sectors on measures concerning working time quality (duration, atypical working time, working time arrangements and flexibility). However, a high share of employees in the education sector are working part-time (23%) (Eurofound et al., 2017).

Working time may, however, be difficult to compare between countries since differences exist around the counting of working hours. In some countries, all tasks (including preparation tasks) are included in the reporting of working time (e.g. Finland), while in other countries (e.g. Italy) only teaching hours are counted as working time.[14]

Yet, generally, there may be large differences between the formal weekly hours and the hours actually worked in the sector. Because many teachers experience significant time pressure, preparation, marking and research will often be postponed to evenings or weekends, and often as invisible overwork. According to the EU social partners interviewed, work–life balance will often also suffer given the limited available time and energy for private life. In jobs with an emphasis on performance, employee self-

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[14] According to interviews with key EU social partners.

esteem may be highly dependent on how well the job expectations are met, and accordingly stress and burnout may easily occur under the conditions of high time pressure and overwork (Albertsen et al., 2010b).

Furthermore, the sector is characterised by many employees with short-term contracts and precarious employment. Previous research suggests that the education sector has the second highest number of precarious workers (15%) (Jain & Hassard, 2014). Precarious employment seems to be common not only at the higher educational levels but also within early childhood education.[15]

3.2.8 OSH management and training

The OSH-related challenges faced by education professionals including psychosocial and other risks could be mitigated through stronger employee awareness and involvement in the design of measures. Previous research has examined worker representation on occupational safety and health (OSH) in the European Union (EU), also in the context of psychosocial risks (EU-OSHA-2017).

The conditions for doing so seem quite positive. Data from Eurofound (2017) show a high degree of direct employee participation in the education sector and in general a positive attitude towards employee involvement. Establishments involving employee representatives and/or employees in joint decisions on major changes employ more than half of the sector's employees (56% compared to EU-28 53%).

However, there are huge differences between establishments. Interestingly, in the group of establishments with the most trustful relationships, 95% of the establishments involved employee representatives in joint decisions on major changes, while no establishments did so in the group with the most conflictual relationships. As one would expect, positive work cultures and employee involvement are related.

The Danish National Working Environment Survey (DANES, 2018) asked about the involvement of employees in decisions influencing their work environment. Compared to other sectors, the education sector obtained an average score, while employees within universities and research scored significantly above the average level. The same results were obtained with regard to the prioritisation of work environment issues.

Furthermore, training can contribute to knowledge building and skills development as well as a more positive attitude towards OSH issues. Effective training can be a first step towards the development of a safety climate and culture of wellness and safety in the workplace. Such preparation can prevent occupational injuries (Feszterová, 2015). For example, previous studies indicate that training chemistry teachers in OSH-related issues may help prevent a wide range of different psychosocial and ergonomic risks.

3.3 Ergonomic factors

Prior research indicates that while some ergonomic risks are less severe in the education sector, there may be others that are widespread and not fully accounted for.

Data from the sixth wave of the European Working Conditions Survey suggest that the education sector compared with other sectors has a relatively good physical environment (posture-related, ambient (vibration, noise, temperature), biological and chemical) (Eurofound et al., 2017).

Yet, the Danish National Working Environment Survey (DANES, 2018) shows that the education sector is among the sectors where most employees are walking or standing at least one-quarter of the working time (95%). And the university and research sector is among the sectors where most employees are sitting at least three-quarters of the working time (73%).

Several studies have found a high prevalence of MSDs among teachers (Erick & Smith, 2011). Particularly MSD-related problems concerning shoulder movements are prevalent among teachers, ranging from 15% to 83% between different countries (Nyawose & Naidoo, 2019). Similarly, an analysis of a sample of 4,500 teachers showed that the teaching profession, especially for persons over 40, and those with a 40-hour or more working week, is associated with a higher occurrence of MSDs (Cardosa, 2009).

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[15] According to interviews with key EU social partners.

Erick and Smith (2011) documented that teachers are especially prone to MSDs in the shoulders, upper limbs and upper back. The review shows furthermore that teachers of students with physical disabilities are more likely to suffer from MSDs.

A key problem concerns the lack of use of relevant equipment to address MSDs. A review of health issues for teachers noted that around half had experienced health challenges connected to computer use but had not done anything to address them (Lai, 2006). Similarly, a study of 42 teachers in one school reported widespread musculoskeletal pain in at least one body part in the past year, although staff knew or had done little to improve their ergonomic conditions (Kraemer et al., 2021).

In general, MSDs may be under-reported in the education sector as well since their existence has been clearly documented in other comparable sectors (Oranye & Bennett, 2018). And it is likely that many classrooms lack fundamental ergonomic equipment, such as height-adjustable desks, to allow for the demands of teaching. Studies have suggested that factors such as older age, female gender, previous injury, high job demands, low job satisfaction, low social support, length of employment and time spent writing on the blackboard are associated risk factors for MSDs in shoulders (Nyawose & Naidoo, 2019). These findings are corroborated with those identified by Erick and Smith (2011) in their review.

Moreover, MSD symptoms among teachers have been shown to be significantly associated with psychosocial factors and depression (Ng et al., 2019).

3.4 Unsafe noise levels

A key risk facing teachers is unsafe noise levels. Using a combination of sound measurement tests and survey-based research, one study found that the average indoor noise exposure over an 8-hour period in some schools exceeds the levels safety recommended by the World Health Organisation (Yassin et al., 2016).

Similarly, studies on the impact of open-plan classrooms over the past 40 years have shown that intrusive noise is a major problem, causing distraction and dissatisfaction to both pupils and teachers. Effective control techniques include installation of absorbent ceilings, linear layout of classrooms, limiting the number of classrooms to three or fewer, and providing sufficient floor space per student (Shield et al., 2010).

Exposure to high noise in classrooms may be a risk to hearing. Several studies have noted that the indoor noise level may exceed recommended standards. In investigating the impact, one study examined the hearing ability of 67 teachers. The test revealed that early changes and possible damages to the inner ear were detectable in the sample (Novanta et al., 2020).

Voice disorders are another noted health consequence for teachers in dealing with noise in classrooms. A review of 23 studies concluded that teachers report voice disorders more often than non-teachers, and that voice disorders are an important health problem among teachers (Cutiva et al., 2013). The authors further reported that a large variation in prevalence of voice disorders was observed: the prevalence of current voice disorders ranged from 9% to 37% and 15% to 80% of all teachers reported to have experienced voice problems in the past 12 months. A study conducted among 682 Colombian school workers showed that high noise levels outside schools as well as self-reported poor acoustics at the workplace were associated with voice symptoms, indicating that noise and acoustics may play a role in the occurrence of voice symptoms among teachers (Cutiva & Burdorf, 2015).

Similarly, a study from Finland among 1,198 Finnish teachers found that decreased workability among teachers was connected with voice disorders, stress at work and poor indoor environment quality (Vertanen-Greis et al., 2020).

3.5 Other risks

Although dependent on the level of digitalisation and the use of white boards in classrooms, some teachers in Europe may continue to be at risk of chalk dust. A study estimating the risk of inhalation of chalk dust in classrooms using blackboards noted that approximately 15% of observed chalk dust particles were respirable and high concentrations of chalk dust deteriorated the indoor air quality (Lin et al., 2015). Another study noted that although chalk does not contain toxic materials, chalk dust could be harmful to allergic persons and may cause lacrimation and breathing problems in the long run (Majumdar, 2012).

Eye health due to increased use of digital tools also appears to be an emerging issue. For example, a survey-based study indicated that among 1,700 teleworkers, the number of visual display unit hours is associated with eye strain and eye disease (Salinas-Toro et al., 2021). The same phenomenon was examined by another study (Ganne, 2021) using an online survey to explore the level of eye strain in 688 students since the COVID-19 pandemic began. Again, it was found that eye strain was higher among students taking online classes compared to the general public.

To analyse the impact of lockdown due to the COVID-19 pandemic on the experience of undergraduate lessons, one study noted that many students had reported eye strain/symptoms, especially in those participating in lengthy online lectures (Matheen et al., 2021). Similarly, another study found that eyestrain was a key reported health problem via a survey of subjective health complaints of 1,710 teaching professionals (Chong & Chan, 2015).

4 OSH risk factors

4.1 Introduction

Like all organisations, educational establishments face different types of OSH risks that are related to their working practices, materials, environmental conditions, organisation, social relations and so on. By honing in on the responses from the education sector, this chapter explores the types of risks confirmed by respondents as present in their workplace.

Using this information, and considering the results of the literature review that suggested that OSH risks are endemic to the sector (see Chapter 3), we have:

- reflected on the extent of the risks identified across the education sector population;
- compared whether each of the known risks are identified evenly by establishments; and
- considered if the known risks have been responded to by suitable OSH management approaches and measures.

4.2 Summary of ESENER 2019 findings – OSH risk factors

The ESENER 2019 results concerning OSH risk factors showed that a high percentage of organisations in the education sector across the EU-27 consider difficult pupils (76%) to be the most prevalent OSH risk. Though there are other sectors that report the risk associated with 'difficult customers' as high, such as human health and social work activities (81%), the education sector ranks second highest, above the EU-27 average of 59%. While this ESENER question was framed in the context of psychosocial risks and highlights the emotional demands of working with children and young people, the literature shows that physical risks or violence may also follow from difficult pupil behaviour (see Chapter 3). This finding was corroborated by experts interviewed as part of the case study on Ireland. In addition, they found that particularly in special education needs facilities the trend of incidents of violent behaviour from pupils has increased over recent years.

Other prominent MSD-type and psychosocial risks include prolonged sitting (59%), repetitive hand or arm movements (51%), loud noise (50%) and time pressure (49%). Over one-third were aware of risks associated with lifting or moving people or heavy loads (36%). A lower share of organisations was aware of physical and chemical risks (24%), risks associated with tiring or painful positions (32%), slips and falls (28%), heath, cold or draught (27%), chemical or biological substances (26%), and accidents with machines (25%). To a lower extent still, approximately 20% of establishments were aware of several psychosocial risks such as longer and irregular working hours (22%), poor communication or cooperation (21%), and job insecurity (16%). What is interesting to note is that employees within the education sector reported above-average (12%) job insecurity despite widespread teacher shortages in the EU.[16] It also shows that the types of risks identified are similar to those mentioned in the literature review.

Furthermore, the results showed that medium and large-size organisations were more aware of psychosocial, physical and chemical risks compared to the micro- and small organisations. This suggests that smaller educational establishments have less resources, expertise and time needed to invest in OSH management. It is, however, also likely, that some of the risk factors may not have been present in some small organisations with less extensive facilities or equipment — for example, risk of accidents with machines and chemical or biological substances.

Of course, the prevalence of OSH risks may differ between educational establishments especially at different levels of education, and those with and without specialised teaching facilities that include chemicals or machines and so on. For example, the German case study showed that primary school-level employees may experience slightly different MSD-type risks as they tend to spend less time sitting and are more likely to be carrying (especially younger) children. The Italian case study, instead, identified psychological risks as the main risk concerning OSH at primary and in particularly in secondary school-level. These were reported as stemming from both the workload and the relational aspect of teaching (with a clear reference to the teacher–pupil relationship especially with older children).

Interestingly, according to ESENER 2019, apart from risks associated with having to deal with difficult pupils, it seems that half or more of educational establishments are not aware of the risks that are

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[16] EPRS. (2019). *Teaching careers in the EU. Why boys do not want to be teachers*. European Parliamentary Research Service (EPRS). https://www.europarl.europa.eu/RegData/etudes/BRIE/2019/642220/EPRS_BRI(2019)642220_EN.pdf

common to the profession, for example, around prolonged sitting or time pressure. Therefore, in some areas, it seems that there are gaps in risk identification.

At the same time, while the level of risk identification is not even across establishments, as one may expect, the risk factors that were most frequently confirmed as present by educational establishments in response to ESENER 2019 correspond to many of those identified in the literature review (see Chapter 3).

Despite prolonged sitting (59%) being relatively common in the education sector, it was reported below the EU-27 average (65%). In sectors such as public administration, defence and compulsory social security, the issue seems to be much more frequently reported (89%).

As mentioned in chapter 3, loud and intrusive noise has been identified as a prevalent risk factor in the education sector The ESENER 2019 results confirm that education sector employees seem to be more exposed to loud noises (47%) than employees in other sectors, such as financial and insurance activities (4%), but not as much as employees in some sectors involving manual labour such as mining and quarrying (81%).

Risks associated with difficult pupils may take the form of emotional demands, demands to hide emotions as well as offensive behaviour from children/pupils/students but also parents/relatives. As documented in the review, offensive behaviour has been shown to be prevalent in the education sector (DANES, 2018; ETUCE, 2009; Gervais, 2013; McMahon et al., 2014), and associated with serious health outcomes such as stress, depression, anxiety, burnout, sleep disturbances and turnover (Chirico et al., 2021; Dangleben, 2019; Pyhälto et al., 2015; Rudkjobing et al., 2020). The literature review findings are largely confirmed by the case studies, for example, on the education sector in Italy or Ireland. As emphasised during the consultation with EU social partners, education professionals must also deal with risk factors stemming from the relational aspect of teaching especially in primary and secondary education. Indeed, for some schools or classes, management of relation aspects may feature high on the teaching schedule resulting in conditions that take a toll on wellbeing over time. Moreover, daily interaction with pupils with behavioural disorders (e.g. inappropriate and offensive behaviours) is likely to increase the chances of emotional overload.

Exposure to emotional demands and emotional labour have also been shown to be negatively associated with health. In this regard, the case study on OSH in the education sector in France helped highlight how often the direct contact with difficult pupils is — in the long run — a potential source of inferiority and personal failure feelings.

Compared to other sectors (EU-27 average 45%) time pressure was reported more often in the education sector (49%) but not as often as in other parts of public administration such as human health and social work activities (56%). The relatively high awareness of time pressure in the education sector corresponds with the prevalence of this risk mentioned in the literature associated with stress, depressed mood and lower wellbeing among teachers. As highlighted in the German case study, time pressure may have increased during COVID-19 as education employees had to administer COVID-19 tests and related tasks during teaching hours while still following the same teaching schedule.

Although a smaller share of respondents to ESENER were aware of other physical and chemical risks as well as long and irregular working hours, and psychosocial factors such as poor communication or cooperation and job insecurity, these risk factors may be of high importance in the specific organisations facing these risks (or of course may be overlooked by some establishments). As mentioned in the literature review, some risk factors may vary a lot from organisation to organisation within the same sector, and they may have serious health consequences for employees within these organisations.

Finally, building on and going beyond the ESENER results, the feedback received from EU social partners also highlighted the interaction of risk factors resulting from the transformation of work through digitalisation and technical advancements, which was accelerated further by the COVID-19 pandemic. This period has intensified the practices of online teaching, including teaching classes entirely at home, or with some classes partly taking place physically and also online. This has also combined with greater use of digital communication channels used by teachers to communicate with parents. As highlighted in the Italian case study, the COVID-19 pandemic breakout meant that teachers have had to learn and implement new types of teaching in a very short amount of time and develop evaluation criteria different from the usual oral and written tests. This reorganisation is likely to have been the source of a fair amount of stress, since spending the whole day at home puts every remote worker in the condition of being always available for work.

Multiple dynamics have been unleashed in this new context. For example, teachers are under pressure to obtain good results in a more challenging teaching environment. Parents have put school managers under pressure when making decisions to close schools considering that they and their children need to work and learn together at home. Parents are in direct contact with teachers outside of working hours, including part-time teachers, meaning that work and home life are blurred. Also, MSD risks have intensified due to the lack of appropriate equipment for home working.

It was also mentioned that the teaching profession is experiencing a staff retention and recruitment challenge. This is partly the result of unsatisfactory working conditions such as the workload and the level of pay but is also affected by the working environment, especially the impact of the psychosocial and emotional demands of working with difficult pupils and parents.

Despite these negative impacts, the COVID-19 pandemic in some ways also improved working conditions for employees in the education sector. For example, the increased use of remote teaching minimised the need to commute to different schools or remote areas, which may be a stress factors for some employees.

Policy pointer: The risk factors identified as most prevalent in the education sector as determined from the results of the literature review and ESENER 2019 included the issues of having to deal with difficult pupils, threats and violence. Loud noise and MSD risk factors were also reported prominently, including prolonged sitting, repetitive work.

Despite a good level of awareness in many establishments on the well-known and important OSH risks, the results suggest that there is still room for improvement in some establishments and some countries. Furthermore, while the level of awareness is good in some areas, the results point to a major gap concerning the understanding of the significance of the psychosocial working environment. This is especially the case around the organisational and relational aspects of teaching particularly at primary and secondary levels, including the quality of communication (towards pupils/students, parents, colleagues and supervisors), emotional demands, irregular working hours and job insecurity.

Managers and OSH representatives should ideally gain better awareness of the risks and how they manifest as personal challenges in the working lives of educational professionals. Furthermore, the results suggested a particular need for expertise, tools and support for micro- and small enterprises that seem less aware of the risks.

4.3 Health and safety risks in European educational establishments

Educational establishments were invited to provide feedback on the OSH risk factors facing at least some employees, regardless of whether the risks were considered as under control or not.

The most frequently identified risks in educational establishments in the EU-27 included 'prolonged sitting' (59% ESENER 2019), 'repetitive hand or arm movements' (39% ESENER 2014 to 51% ESENER 2019), and 'loud noises' (43% ESENER 2014 to 50% ESENER 2019).[17] On the sectoral level, there are of course differences that help put the risks identified in the education sector into perspective. For example, while a majority of establishments across sectors (59%) reported prolonged sitting as a major risk, the risk seems to be more prevalent in sectors where most of the worktime is spent sitting at a desk, such as financial and insurance activities (92%) or information and communication (92%). Interviews conducted as part of the country case studies also gave further insight into how the various levels of education may differ in terms of their risks. For instance, employees active in lower levels of education are typically less exposed to prolonged sitting than employees in higher education but are more likely to face risks related to lifting children.

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[17] Please note that the following results presented in brackets show the ESENER 2014 result first followed by the ESENER 2019 result. Where a single result is indicated, the source is ESENER 2019.

Figure 1: Risk factors (excluding psychosocial risks) in educational establishments (% educational establishments in the EU-27 for ESENER 2019 and 2014)[18], [19]
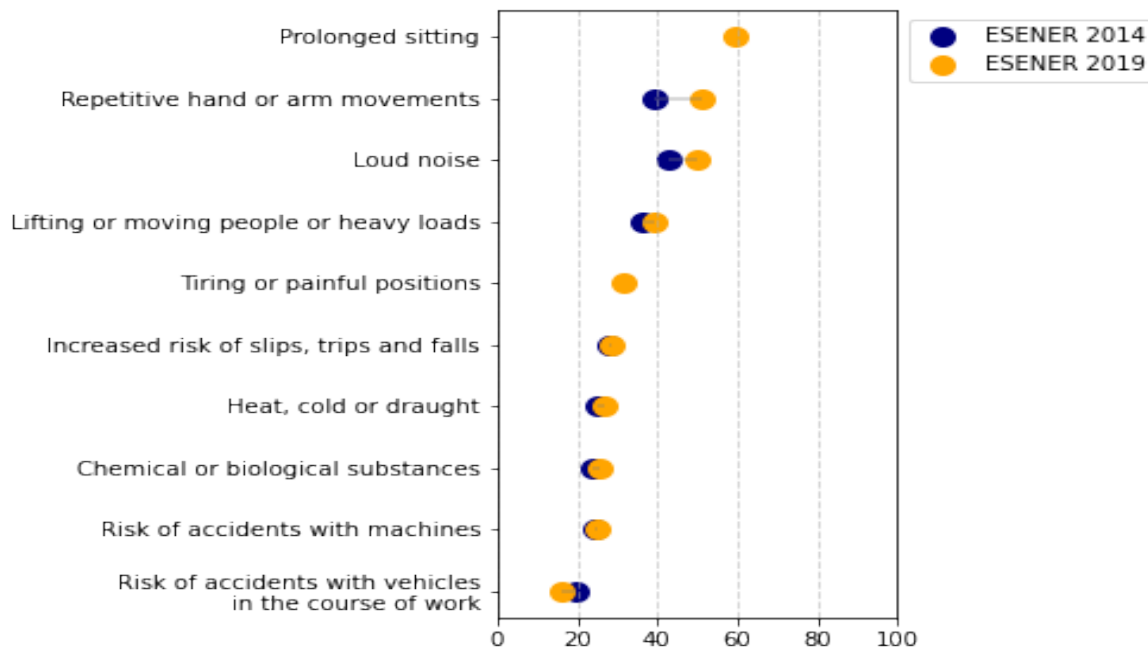
Compared to physical risks, educational establishments reported more frequently the possible sources of psychosocial risks, namely difficult pupils (70% to 76%). This result is particularly high compared to the EU sectoral average of 59% (2019) for dealing with difficult external persons (e.g. customers, patients or pupils). As highlighted in the case studies, successfully managing pupils and their families is generally considered as the main OSH challenge for primary and secondary levels of education, and of course, the problems are more severe when dealing with children with behavioural disorders.

Organisational aspects were less commonly mentioned although they were relatively important to many establishments, such as time pressure (48% to 49%), long or irregular working hours (20% to 21%), poor communication or cooperation (19% to 21%), and job insecurity (20% to 16%). Generally, these results are around the EU sectoral average as measured by ESENER. However, there is a possibility of some under-reporting of the organisational risks. The literature review and case studies suggested that teachers are committed to ensuring good results for their pupils and often work outside of normal hours in doing so — clearly, this could be a general observation of the sector also. Similarly, the case studies reported organisational aspects as a less prominent risk when compared to managing pupils. However, the case on France suggested that some schools lack appropriate management methods, which may result in management–staff tensions, and unmotivated or cynical behaviour. Similarly, to address the OSH challenges of working in educational establishments, the Irish case study revealed that young teachers benefit from professional mentoring through sharing of coping strategies and instilling of confidence, thus reducing psychosocial risks.

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[18] Base: All educational establishments sampled.
[19] Please note that the ESENER 2014 question on whether establishments are exposed to 'Prolonged sitting or tiring or painful positions' was separated into two new items under ESENER 2019 — that is, 'prolonged sitting' and 'tiring or painful positions'.

Figure 2: Reported presence of psychosocial risk factors in educational establishments (% educational establishments in the EU-27 for ESENER 2019 and 2014)[20]
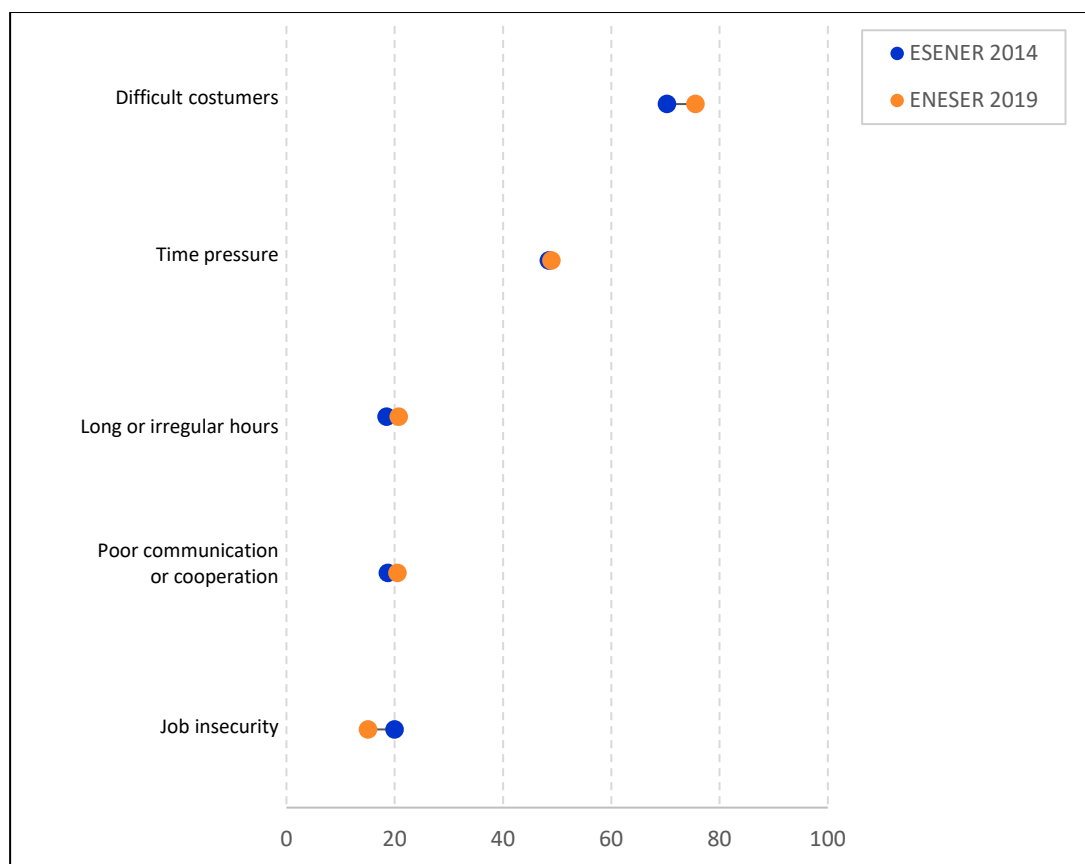
Considering the results on the noted presence of physical, chemical and psychosocial risks, we also explored if there were differences between larger and smaller establishments. Apart from loud noises, it seems that larger organisations are likely to report them more often than smaller organisations, as seen in Figure 3. The same goes for psychosocial risks (see Figure 4). In line with the literature, this suggests that smaller organisations face more acute challenges in monitoring their working environment.

In addition, recent research by the French National Centre for Scientific Research (CNRS)[21] on the psychosocial implications of COVID-19 on researchers in France showed that psychosocial risks may differ not only across sectors but also across different research fields and levels of seniority among staff. For instance, PhD researchers have been among the most impacted categories during the pandemic in facing profound isolation and psychological stress, while some more senior professors reported that they enjoyed having more time to work on publications. Similarly, research conducted in Germany confirmed that teachers on average reported more difficulties detaching from work than employees in other sectors but that there are differences among primary/secondary and higher education teachers. The research suggested that for primary and secondary school teachers multitasking demands were a much greater risk compared to their colleagues in higher education but that this risk could be reduced greatly through supportive colleagues.[22]

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[20] Base: All educational establishments sampled.
[21] See: https://www.csee-etuce.org/en/policy-issues/covid-19/4621-french-study-the-psychosocial-impact-of-covid-19-on-researchers#_ftn1
[22] Varol, Y. Z., Weiher, G. M., Wendsche, J., & Lohmann-Haislah, A. (2021). Difficulties detaching psychologically from work among German teachers: Prevalence, risk factors and health outcomes within a cross-sectional and national representative employee survey. *BMC Public Health, 21*, Article 2046. https://doi.org/10.1186/s12889-021-12118-4

Figure 3: Reported presence of risk factors (excluding psychosocial risks) in educational establishments, by size (% educational establishments in the EU-27 for ESENER 2019)[23, 24]
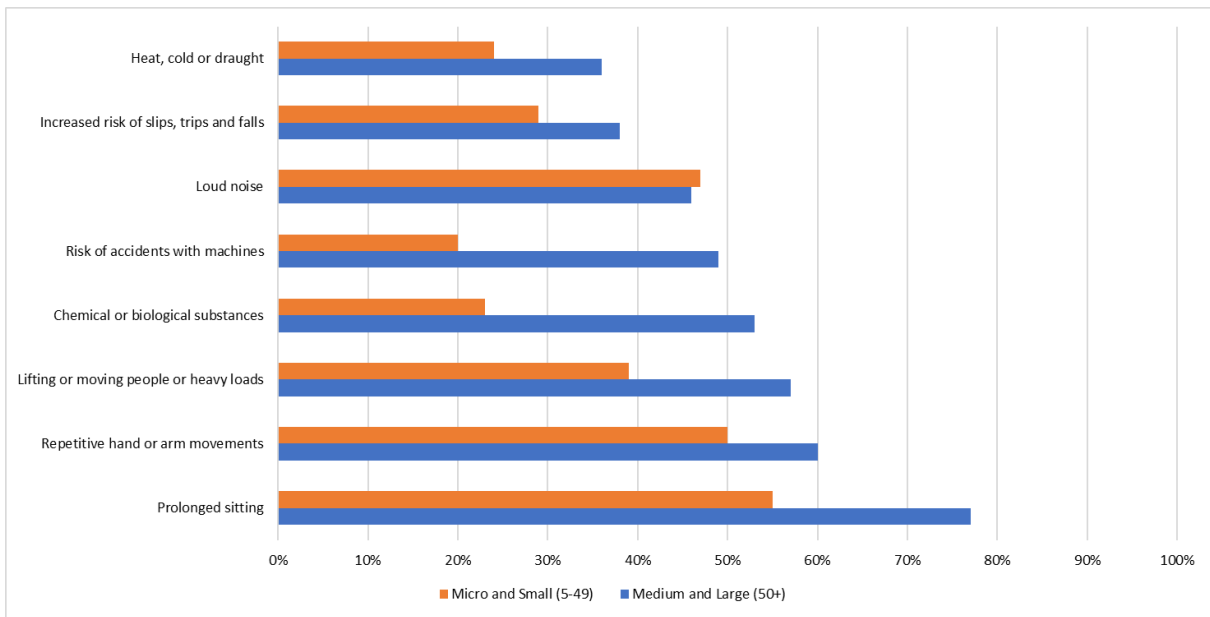
Figure 4: Reported presence of psychosocial risk factors in educational establishments, by size (% educational establishments in the EU-27 for ESENER 2019)[25]

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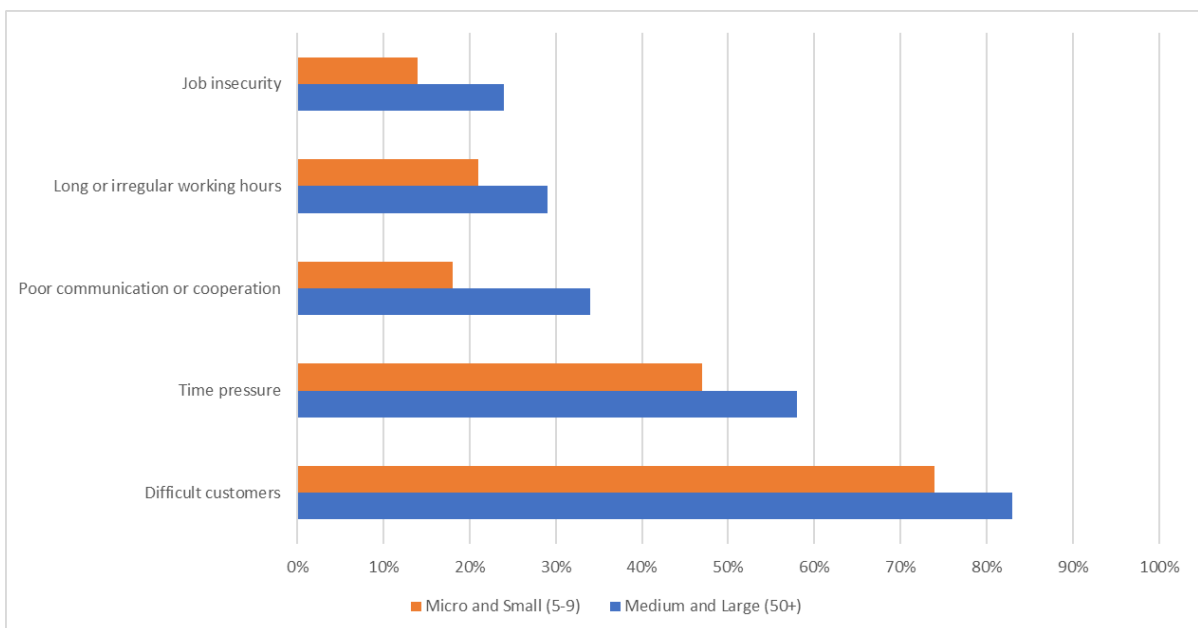
[23] Base: All educational establishments sampled.
[24] Please note that the ESENER 2014 question on whether establishments are exposed to 'Prolonged sitting or tiring or painful positions' was separated into two new items under ESENER 2019 — that is, 'prolonged sitting' and 'tiring or painful positions'.
[25] Base: All educational establishments sampled.

5 OSH management and risk assessment in the education sector

5.1 Introduction

OSH management involves a comprehensive approach to managing risks at work. It involves several steps and measures to enable organisations to fulfil their legal duties, and hopefully encourage the development of proactive approaches and safety cultures. Furthermore, good OHS management practice is supported by the will and capacity of employers to deliver a competent participatory approach to OHS management (EU-OSHA, 2018b).

A key aspect of OSH management is risk assessment. Among other things, this procedure involves upfront identification and appraisal of risks, introduction of corresponding measures to mitigate risks, ongoing reporting, and updating of OSH management approaches over time and as the situation changes.

The results of the ESENER 2019 survey on awareness of risks (see Chapter 4 on OSH risk factors) and prior research (see the literature review in Chapter 3) indicate that employees in the education sector are exposed to several and quite severe types of OSH risks. Among other things, this includes psychosocial risks stemming from difficult pupils and parents and the way in which work is organised, including long working hours, loud noise, MSD risks due to prolonged sitting and standing and so on, and safety. Given these demands, OSH management and risk assessment are important in ensuring the protection of education professionals, and the sustainable provision of teaching to pupils.

This section provides an overview of key ESENER results relating to the domains of OSH management and risk assessment, including:

- a summary of the results to introduce the chapter;
- measures taken for OSH management;
- OSH commitment; and
- sources of OSH advice.

5.2 Summary of ESENER 2019 findings

Measures taken for OSH management

The ESENER results across the EU-27 showed that most establishments in the education sector reported that they are conducting workplace risk assessments regularly, with the finding following an increasing trend from 2014 to 2019 (71% under ESENER 2014 to 77% in ESENER 2019). Although there were significant differences reported between countries, the results show that there is a good level of initiative in fulfilling this central OSH management activity, as it ranks average on sectoral level. Similar to other key OSH management indicators, it is the heavier industries that report regularly conducting risk assessments more often, including electricity, gas, steam and air conditioning supply (94%), mining and quarrying or water supply, and sewerage, waste management and remediation activities (both 93%). On the lower end of the spectrum are real estate activities (65%), information and communication (61%), and professional, scientific and technical activities (61%). Similarly, the outcome of a composite indicator analysis that combined results on several ESENER 2019 OSH management measures showed that the education sector is just above the average when compared to other sectors.[26]

Results from the multivariate analyses suggest that regular risk assessment is highly associated with other formal OSH management aspects such as the presence of health and safety representatives and concerning key motivations for addressing health and safety such as fulfilling legal obligations and avoiding fines. With respect to these latter points, the case research helped to partially explain these outcomes in some countries as completion of risk assessments is sometimes linked to stringent obligations or measures targeted at public establishments. For example, in Denmark, completion of risk assessments is made mandatory as part of the application for the school budget to be submitted to the public administration. In Italy, schools are required to complete a yearly risk assessment by law or may face up to four months of imprisonment or an up to €4,384 fine.

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[26] The composite indicator provided a weighted score for five ESENER 2019 measures as follows: 1) Regular conducting of workplace risk assessments. 2) Conducting of risk assessments by internal staff. 3) Whether risks assessments cover workplaces at home. 4) If risk assessments cover only people on the payroll or other types of workers. 5) If employees are usually involved in the design and implementation of measures following a risk assessment.

Furthermore, regular completion of risk assessment was associated with recent visits by the labour inspectorate, showing that interaction with authorities can have lasting positive effects and contribute to the development of safety culture. It is also worth noting that the more OSH services (such as occupational health doctor or psychologist) the establishment is using, the higher the chances for carrying out regular risk assessments.

Almost half of the educational establishments across EU-27 countries reported that the risk assessment was conducted by internal staff (52%), which is slightly above average (42%). While heavy industries rank high on some OSH management measures, it is the reverse when it comes to the use of internal staff, as electricity, gas, steam and air conditioning supply (37%) and manufacturing (38%) reported that the use for internal staff is relatively uncommon, compared to human health and social work activities (60%) and arts, entertainment and recreation (56%). One reason for this could be that heavier industries tend to have more organised risk assessment processes that involve specialist experts to develop essential approaches to manage significant safety risks.

In total, approximately just a fifth of educational establishments reported that the risk assessment covers workplaces at home, and 40% that it covers workplaces outside the establishment. In slightly more than half of the establishments, risk assessments covered other types of workers and not only people on the payroll. For all these issues, the results showed huge differences between countries, ranging from about a fifth to almost all respondents.

Taken together, while some establishments have purportedly introduced good approaches to managing OSH, there remain some OSH management gaps especially when comparing the results between countries. While ESENER provides insight into the situation in 2019, it seems that the education sector was not well placed for the COVID-19 pandemic and the large number of staff teaching from home. Interview feedback from EU-level sector bodies suggested that some establishments may have changed practices since the pandemic; however, it is most likely that many schools have yet to include working from home in risk assessments.

Moreover, further comments were received from EU social partners on the OSH-related impact of home working. For example, the physical work environment may vary a lot, for example, in terms of the quality of equipment and type and size of the working space available. Also, the psychosocial work environment is dependent on personal circumstances such as the level of family support, disturbance and prolonged isolation. Particularly the possibilities for social support and more informal communication with colleagues and management are likely to suffer. On the other hand, work–life balance may be easier to achieve for some employees (see also the literature review in Chapter 3).

Further, as with other sectors, the prevalence of internal staff conducting the risk assessment differed greatly between countries, suggesting differences in capacity and OSH-related competences in educational establishments across countries. Of course, one should also recognise that some countries such as Spain have well-developed private OSH services markets with many establishments hiring external persons to conduct risk assessments. However, results from the regression analyses showed that the use of internal staff to conduct the risk assessment was highly associated with employees' involvement in the implementation of measures following a risk assessment, suggesting that it is beneficial to have this capacity inside the establishments.

Most educational establishments across countries document findings from the risk assessment in written form, and only in relatively few countries and establishments are improvements needed at this point.

With respect to the key risks routinely covered by the risk assessments, the results showed that — for those educational establishments using such substances and equipment — between 70% and 90% of them routinely cover dangerous chemicals and machines. This suggests that these risk factors — that are a significant safety risk — are relatively well identified and managed, although ideally all establishments using dangerous chemicals should include these in risk assessments.

In terms of all educational establishments, ergonomic, psychosocial risks and noise are covered in 50% to 70% of establishments. These results may seem a little low considering that the results from the ESENER survey and literature review (see Chapters 3 and 4) showed that the main risks facing the education sector are having to deal with difficult pupils, prolonged sitting, repetitive hand or arm movements, loud noise and time pressure. A reason for this could be insufficient knowledge of the issues. For example, regression analyses showed that if OSH services are used by educational establishments then there is increased likelihood for identification of time pressure as a risk (which would hopefully translate into this risk being included in risk assessments) — see section 6.6.

The likelihood of perceiving psychosocial risks as more difficult to manage than other risks was higher in the education sector (32%) than in all other sectors, with only 9% of establishments in mining and quarrying and 14% of businesses in the accommodation and food service activities reporting the same. This shows that education professionals are faced with a severe psychosocial risk management challenge, as corroborated by the ESENER results that show that managing difficult pupils is a significant issue.

Interestingly, the results from the multivariate analyses suggest that the likelihood of perceiving psychosocial risks as more difficult to manage than other OSH risks is higher when establishments use measures such as reorganisation of work, confidential counselling or training on conflict resolution, suggesting that those that use such measures recognised the associated challenges of effectively managing the psychosocial work environment. The likelihood is also higher if establishments use external OSH services (and therefore may consider OSH issues as too difficult to manage internally), and also if they consider fulfilling legal obligations as a key reason for addressing health and safety (partly suggesting that psychosocial risks cannot be effectively addressed in instances where there is only a compliance-focused approach to OSH management). The likelihood was lower when the establishments consider enhanced productivity and meeting expectations from employees as reasons for addressing health and safety, or if they have sufficient information on how to include psychosocial risks in risk assessments, and if they allow employees to take more decisions on how to do their job.

Policy pointer: Most establishments in the education sector reported regularly conducting workplace risk assessments, and the share is growing since 2014.

Yet, gaps in their regular completion remain. In addition, the results show that there is a need to improve the focus and scope of risk assessments, for example, by ensuring that they include the main risks facing the sector, including psychosocial, MSD and organisational aspects, and cover all staff and teaching practices as well as those associated with home working since COVID-19.

Building awareness is clearly part of this but focusing on the need to follow legal obligations and the risk of receiving fines should help to boost the response. Importantly, the analysis showed that appointment of OSH representatives is positively associated with the likelihood of completing risk assessments, and such persons are likely to be receptive to messages encouraging their better and more comprehensive application.

Furthermore, regular completion of risk assessments is associated with recent visits by the labour inspectorate and the avoidance of fines, showing that interaction with authorities can have lasting positive effects. Targeting smaller educational establishments is key in addressing the main gaps around the regular completion of risk assessments, thus helping to overcome their resource, skills and time limitations.

Moreover, a high share of establishments perceived psychosocial risks as more difficult to deal with than other OSH risks, especially where experience had been gained in trying to manage such risks, thus showing the complexity of the challenges. And the pattern of results suggested that establishments for whom the main reason for regular risk assessment is to fulfil legal requirements may be less likely to develop the internal competences necessary to obtain a proactive safety culture and the capacity to deal with psychosocial risks — thus suggesting the need for stronger motivations to successfully manage risks. On the other hand, it is more likely for establishments to develop the necessary skills internally in the organisation when the main reason for addressing health and safety is to improve productivity and meeting employee needs.

Hence, incentives of both a formal and legal character and those supporting the intrinsic potential of improved collaboration and increased productivity are likely to enhance the OSH performance of establishments in the education sector.

To provide some interpretation of these results, it is known from the literature research that reorganisations are often associated with increased psychosocial strain for employees (Fløvik et al., 2019), and that better psychosocial work environment in a school context is also associated with better performance and higher productivity (Aboagye et al., 2021; Leana & Pil, 2006). An interpretation of the results may be that educational establishments experiencing challenging psychosocial issues, for example, associated with reorganisations, often will also find them difficult to solve and accordingly are more prone to seek external help. On the other hand, establishments with high productivity, high degree of influence for employees and capacity to manage psychosocial issues in relevant ways are less likely to experience psychosocial problems that cannot be solved internally. Where the main reason for addressing health and safety is the fulfilment of legal obligations, establishments may be less likely to develop the skills necessary to manage psychosocial risks. Thus, it could be suggested that establishments that focus on legal compliance only may be less likely to develop a safety culture that is truly responsive in addressing OSH risks.

Concerning differences between smaller and larger organisations, the results showed that a larger share of medium and large-size organisations reported that they regularly conduct workplace risk assessments, that risk assessments were mainly conducted by internal staff and that they also included people not directly employed in the risk assessment. As is common to other sectors, these results may suggest that there are more resources and competences available for conducting the risk assessment at medium and large establishments compared to micro and small establishments. Measures for micro and small establishments could be considered to address these resource limitations.

Health and wellbeing of employees

On average, about two-thirds of educational establishments reported arrangement of regular medical examinations for employees. Yet, the proportion varied considerably across countries (from almost none to almost all). However, these huge differences may reflect that the national context and the way health systems are set up are highly different from country to country, for example, employers are not obliged to conduct medical examinations in Denmark. Interestingly, sectors that face significant safety risks such as mining and quarrying (89%) are more likely to use regular medical examinations, whereas some service and 'lighter' industries are less likely to do so, such as arts, entertainment and recreation (45%).

Between a third and half of the educational establishments reported use of initiatives to improve employees' health through healthy nutrition, preventing addiction, sport activities outside of working hours and back exercises at work. The data suggest that the education sector invests more in the promotion of employees' health compared to other sectors.

Most of the educational establishments keep records of employees' sickness-related absences. This is the case in all establishments in six countries, while in other countries it ranged from about half to just less than all of the establishments. In terms of the sector trends, it is most common among heavy industries, such as in mining and quarrying (91%), water supply, sewerage, waste management and remediation activities (88%) but also in human health and social work activities (90%). Among educational establishments, 87% reported keeping records of employees' sickness-related absences, which is above the average of 83%.

In addition, more than half of the establishments with at least 50 employees reported to have a procedure in place when employees return to work after a long-term sickness-related absence, and this trend has increased since 2014. However, such procedures have become more common in countries that already had a high adoption rate but have become less common where only few establishments made use of them. Accordingly, the distribution of these procedures has become more polarised between countries in the EU-27. The general pattern, therefore, does not seem to correspond well with the widespread psychosocial and other risks facing the education sector that may lead to long-term absence.

On average across the EU-27, use of measures to promote sustainable working lives by reducing MSDs were reported in about a third to less than two-thirds of educational establishments depending on the specific type of measure. However, the overall use of such measures has decreased slightly at EU level from 2014 to 2019, which does not seem to appropriately address the endemic MSD risks in the education sector.

Policy pointer: A high share of the establishments in the education sector use measures to support and sustain the health and wellbeing of employees and have procedures in place to support return to work after long-term sickness absence. Yet, there are signs that these initiatives are quite limited and are on the decrease in some countries. Given the risks facing the sector, and the intensification of risks since the COVID-19 pandemic began, there is a need to invest in concrete mitigating activities, especially preventive measures, such as those that may reduce the MSD risks of working from home and due to prolonged sitting. While all education professionals suffer from MSD risks, the risk of prolonged sitting appears to be more acute in the higher education sector, and thus demands a more targeted response.

OSH commitment

Overall, the results of the composite indicator on OSH commitment that combines several measures show that there is wide variation between countries with respect to OSH commitment in the education sector, and that generally there is an average to below average performance. Interview feedback from EU social partners suggested that there are some barriers in prioritising OSH management in some establishments, for example, as it may not be considered as a strategic concern by management, OSH may be difficult to prioritise and also that there may be perceptions that teaching work does not come with inherent risks.[27]

In terms of the findings on individual measures, the results showed that 90% of the educational establishments had documents in place that explain responsibilities or procedures on health and safety. This number has remained the same since 2014 and corresponds to the average across sectors. Availability for employees was also reported to be high across countries.

Discussions of organisational safety and health issues at the top level of management were reported to occur regularly (65%) across countries in the EU-27. Just over half of the establishments in the education sector reported to have regular discussions on OSH at staff or team meetings. Furthermore, the results showed that it is relatively common for team leaders and line managers (64%) and for respondents of the survey, that is, the person most knowledgeable about OSH in the establishment (67%), in the education sector to receive OSH training. Yet, concerning both the regularity of OSH discussions and OSH training, huge differences can be observed between countries. At the same time, it is interesting that these meetings and trainings have not led to increased reporting of risks or coverage of the main psychosocial and MSD risks in risk assessments.

With respect to the regression analysis results, the likelihood of OSH discussions at the top level of management was found to be only partly related to sector conditions, although the education sector performed better than seven other sectors, including public administration and defence, information and communication, and professional, scientific and technical activities, and so on. Among others, the analysis showed that the frequency of discussion of health and safety issues at the top management level was highly associated with team leaders receiving OSH training, thus suggesting that the initiation of OSH discussions at the top level of management is in some way influenced by more knowledge and skills among leaders at lower levels.

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[27] The measures used for the composite indicator analysis included the following: 1) Putting documents in place that explain responsibilities or procedures on health and safety. 2) Availability of an OSH responsibilities document to the people working in the establishment. 3) Discussions on OSH at the top level of management. 4) Provision of training to team leaders and line managers on how to manage health and safety.

Sources of OSH advice

Policy pointer: Most educational establishments have procedures and division of responsibilities in place concerning OSH. However, these formalities are not enough to secure the commitment necessary for an ongoing and proactive implementation of OSH measures. To enhance the approach, the results pointed towards securing the (stronger) commitment of management in the first instance, appointment of OSH representatives, better organisation between management, representatives and staff, and OSH training among management and team leaders. Development of organisational cultures that address the expectations of employees also was shown to be associated with conditions for better addressing health and safety.

More than half of the educational establishments in the EU-27 used external OSH services such as occupational health doctors, generalists on health and safety, or experts for accident prevention, with more than a third of educational establishments using psychologists. However, the extent of the use of specific services differed significantly across countries. In addition, overall, most respondents were satisfied with the external OSH services received.

Other sources for OSH advice in the educational establishments encompassed contracted health and safety experts, insurance providers, official institutes for health and safety at work, trade unions and employers' organisations.

Further, on average, about one-third of the educational establishments reported a visit by the labour inspectorate within the previous three years, although this is part of a decreasing trend. Research conducted for EU-OSHA's overview report on ESENER 2019[28] indicated several reasons for this, including cutbacks and that inspections have become longer and more complex. With regard to the latter point, this perception seems to be misplaced considering that the regression analysis for this study showed that inspections are positively associated with the reporting of regular completion of risk assessments.[29]

However, it should also be stressed that fulfilling legal obligations as a main reason for addressing health and safety issues was associated with the view that psychosocial risks were more difficult to manage than other risks. Thus, this suggests that management of the psychosocial risks in educational establishments cannot solely rely on legal obligations and inspections but also requires active commitment and involvement of staff at all levels in the establishment.

Policy pointer: Involvement of employees in the design of measures following a risk assessment was found to be more likely when the risk assessment is conducted by internal staff. This is especially important for the education sector, considering that teaching can be a highly 'individualised' experience with many staff focused on their own teaching activities. Feelings of isolation could be made worse if there are poor social bonds among staff and since the onset of COVID-19 with working from home becoming more prominent. Involving staff may therefore help to bring OSH issues to the fore and support the development of safety cultures.

5.2.1 Risk assessment

Educational establishments were asked under ESENER whether concerted actions had been taken to manage OSH. This included an initial set of questions on the use and methods around risk assessments, which is a mandated procedure for employers under EU Framework Directive 89/391/EEC.[30] Subsequently, a series of questions were asked about the management of employee health. The following sections provide the results on the measures.

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[28] Available at: https://www.esener.eu
[29] The same EU OSHA Overview Report on ESENER 2019 holds that inspections are likely to benefit establishments through the provision of advice and in strengthening their safety culture.
[31] Council Directive 89/391/EEC of 12 June 1989 on the introduction of measures to encourage improvements in the safety and health of workers at work. Available at: https://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A31989L0391

In the EU-27, most educational establishments reported regularly conducting risk assessments (71% to 77%)[31] with the trend over time suggesting that improvements were made. The highest performing countries Denmark (99% to 99%) and the United Kingdom (98% to 99%) indicated that the practice is almost universal. However, the results for Switzerland (42% to 23%) and Greece (20% to 32%) suggested that there are gaps elsewhere in Europe. According to EU social partners, a possible measure to improve regular completion of risk assessments is the stronger promotion of Online interactive Risk Assessment (OiRA)[32] tools designed to aid comprehensive and efficient completion of risk assessments in early and secondary education. A further explanation may be that in some countries, due to the legislative framework, public organisations such as schools may be inspected to a lower extent than private companies, which may be related to the propensity to complete risk assessments. See the multivariate analysis in section 5.5.

Figure 5: Educational establishments that regularly carry out workplace risk assessments (% educational establishments by Member State for ESENER 2019 and 2014)[33]
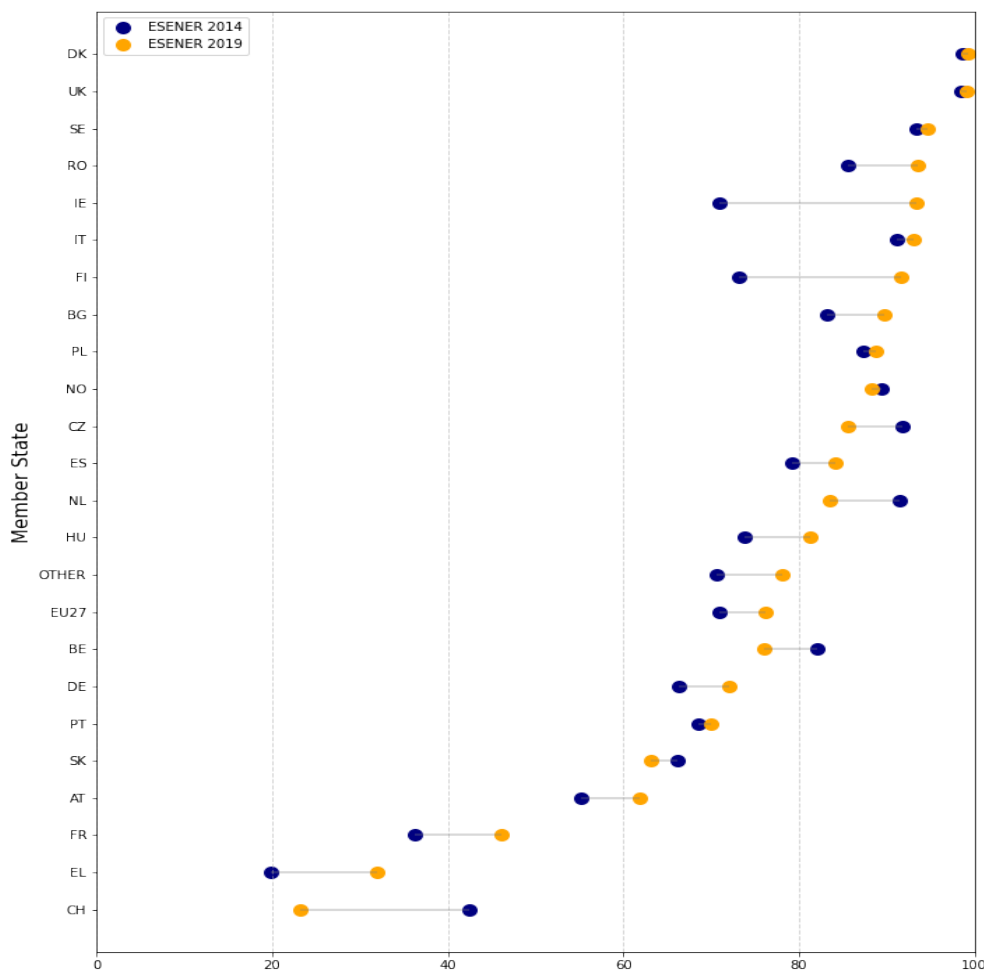
Compared to other sectors, the EU-27 average for the education sector (77% for ESENER 2019) is slightly above the average for all sectors in the EU-27 (although it was below the average in 2014) and experienced the sharpest increase (6%) between 2014 and 2019 compared to other sectors. This shows that the education sector is more likely to conduct regular risk assessments than other 'light industries' such as information and communication and real estate services (61%) but is less likely to do so when compared to sectors facing severe safety risks such as electricity, gas, steam and air conditioning activities (94%), and the mining and quarrying industry (93%).

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[31] Numbers refer to ESENER 2014 and ESENER 2019 results respectively.
[32] See: https://oiraproject.eu/en/what-oira
[33] Base: All educational establishments sampled.

Figure 6: Workplace risk assessments carried out regularly (% establishments by sector ESENER 2019 and 2014)[34]
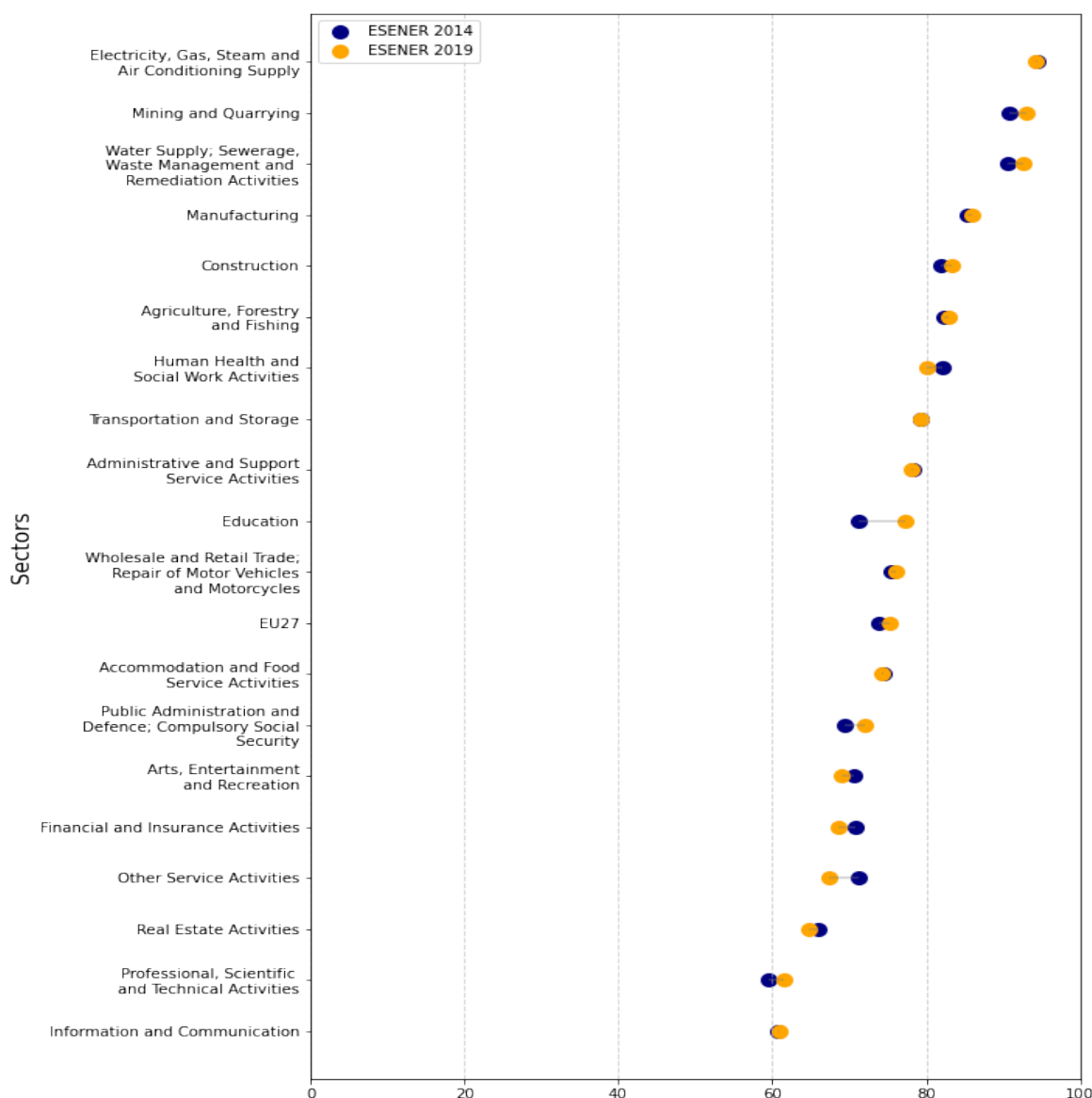
In nearly half of educational establishments in the EU-27 (43% in 2014 to 52% in 2019),[35] risk assessments are conducted by internal staff, which is slightly above the EU-27 average across sectors (47%). This practice seems most common in Sweden (89% to 92%) and Norway (68% to 82%), and least common in Bulgaria (15% to 20%) and Portugal (15% to 19%). In the case of Portugal, previous research conducted by ETUCE revealed that private schools have commenced using OiRA tools, although public schools are behind in this respect.[36]

In 2019, 19% of educational establishments in the EU-27 said that workplaces at home are covered in their risk assessments, which seems to be stable over time (18% in 2014). Yet, there were some dramatic changes for some countries, such as Romania (37% to 100%). Steep increases, though less extreme, were detected in other countries such as in Greece (50% to 67%) and Spain (35% to 49%). In other countries, however, there was a proportional decrease, such as the Netherlands (39% to 15%) and Sweden (21% to 11%). A sectoral partner interviewed noted that uptake of OiRA tools would help to improve coverage of homes in risk assessments given that users are prompted to consider such factors. However, it will be interesting to see how the coverage of workplaces at home has developed

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[34] Base: All establishments surveyed.
[35] Numbers for ESENER 2014 and 2019.
[36] See: https://www.csee-etuce.org/en/projects/oira/3370-project-introduction

since the onset of COVID-19 since some schools may have recognised the need to review OSH conditions outside of the establishment.

A similar question was put forward concerning whether risk assessments cover workplaces outside the establishment.[37] The EU-27 average (40%) showed that this is not normally the case, although the results varied between countries, for example, considering the results for the United Kingdom (78%) and Ireland (74%), when compared to Bulgaria (26%) and the Netherlands (21%).

Figure 7: Risk assessment covering workplaces outside the establishment (% educational establishments by Member State for ESENER 2019)[38]
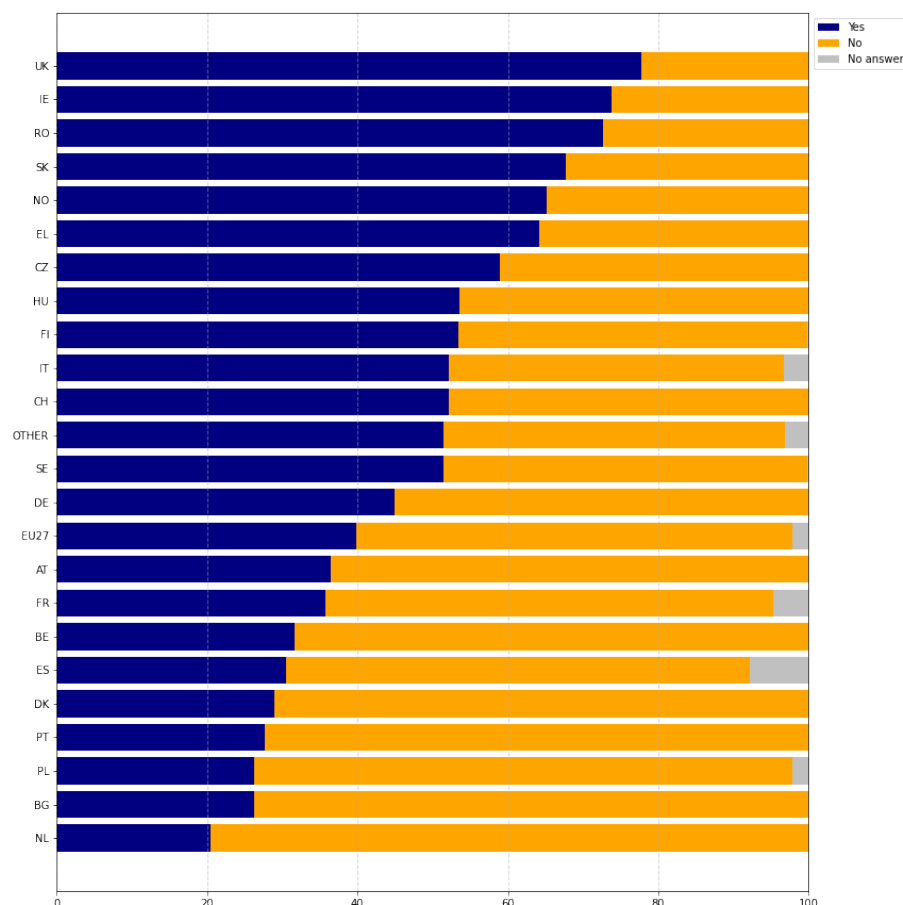
In 52 of educational organisations across the EU-27, risk assessments cover workplaces outside the establishment, which is below the EU-average across all sectors that is 66%. Sectors, such as agriculture, forestry and fishing (89%) or electricity, gas, steam and air conditioning supply (92%) scored higher on this item, while financial and insurance organisations (38%) are less likely to do so. At country level, and as pointed above, educational establishments in the United Kingdom (78%) and Ireland (74%) reported the inclusion of workplaces outside the establishment more often, compared to only 21% and 26% in the Netherlands and Bulgaria, respectively.

Considering the need to ensure protection of all workers, educational establishments were also asked if the risk assessment also covers other types of workers and not only people on the payroll. For the EU-27 (63% to 54%), it seemed that this is increasingly not the case. In addition, the education sector in this regard scores slightly below average when compared to other sectors (56%). However, the situation notably varies across Europe considering the results for Ireland (82% to 90%) and the United Kingdom (81% to 89%) in contrast to Austria (24% to 26%) and Bulgaria (26% to 2%).

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[37] This is a new question introduced under ESENER 2019.
[38] Base: All educational establishments that routinely conduct workplace risk assessments and that employ people who work somewhere outside the premises of the establishment. 'Yes' answers mean that the company's workplace risk assessments do also cover people working outside the establishment.

Respondents were not only asked about who is covered by risk assessments but also what key risks are routinely evaluated in risk assessments. For educational establishments with specialist laboratories, the main type of risk evaluated concerned chemicals or biological substances. Among educational establishments not working with chemicals and biological substances, machine safety (71% to 74%) was reported most extensively, as one would expect considering that many educational establishments contain teaching laboratories equipped with machinery.

However, while psychosocial risks are a significant issue (see the literature review in Chapter 3 and OSH risk factors on Chapter 4), these were reported less extensively in risk assessments such as organisational aspects (69% to 66%) and supervisor–employee relationships (55% to 56%). To address this issue, interviews with EU social partners pointed to the findings of the OSH4EDU project[39] that has emphasised the need to align the OiRA tools with psychosocial risk management approaches (updated versions of the OiRA tools are planned to be issued in 2023).

Figure 8: Items routinely evaluated in workplace risk assessments (% educational establishments for ESENER 2019 and 2014)[40]
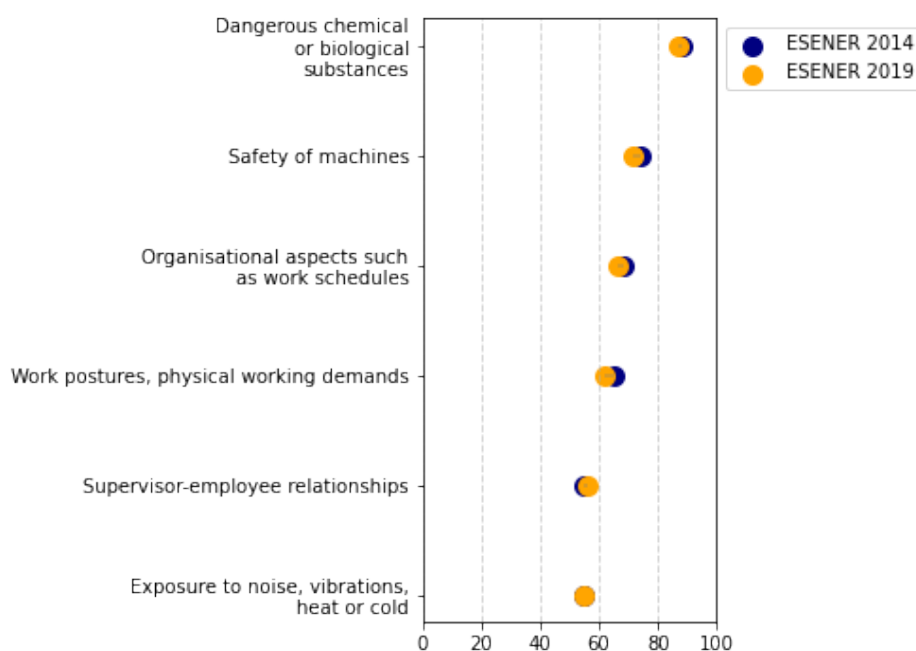
Most educational establishments in the EU-27 (94% to 95%) confirmed that when they conduct risk assessments they also document the findings in written form. This number is slightly above the average across all sectors (92%). In Bulgaria (98% to 99%) and Germany (98% to 99%), almost all establishments keep written documents. In Greece (70% to 43%) and Switzerland (78% to 81%), this practice seems less institutionalised but still common, although the decrease in Greece between 2014 and 2019 is a concern. At the sector level, the variation is low and ranges from 85% in real estate activities to 99% in mining and quarrying.

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[39] See: https://www.csee-etuce.org/en/news/etuce/4417-closing-conference-osh4edu-enhancing-risk-assessment-in-education-institutions

[40] Base: All educational establishments that routinely conduct workplace risk assessments. Item on 'dangerous chemicals or biological substances' was only asked to establishments that reported the presence of 'chemical or biological substances in the form of liquids, fumes or dust'.

Figure 9: Provision of risk assessments in written form (% educational establishments by Member State for ESENER 2019 and 2014)[41]
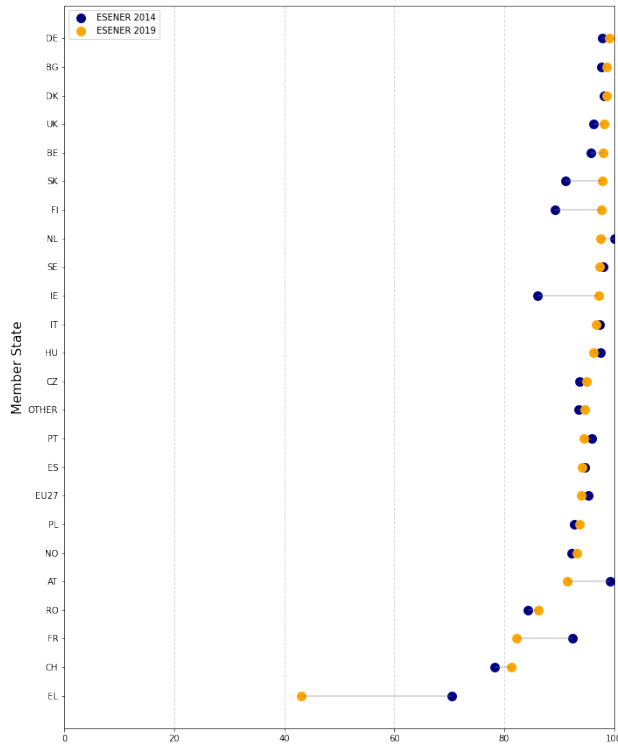
Using the data from some of the previous questions on risk assessments, we explored if differences existed between larger organisations with 50 or more employees (medium and large-sized establishments) and smaller ones with 49 or fewer (micro and small-sized establishments). As one would expect, on the measures selected, larger organisations reported slightly better results than smaller ones except for when it comes to including workplaces at home in risk assessments, where smaller establishments scored higher (18% versus 12%).

Figure 10: Summary of results for key questions on risk assessments by establishment size (% educational establishments by establishment size for ESENER 2019)

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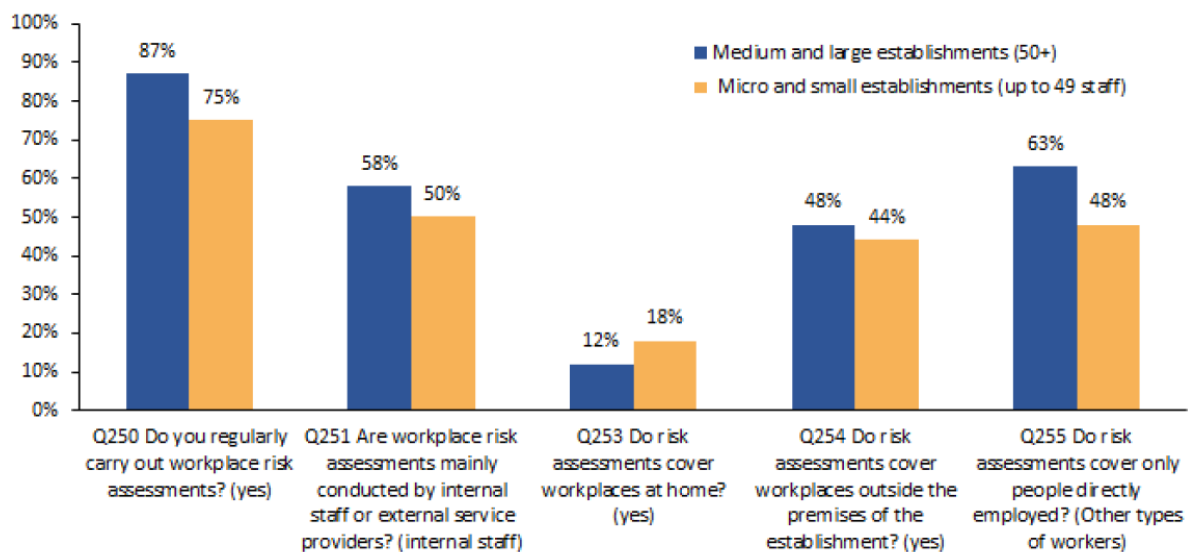
[41] Base: All educational establishments.

5.2.2 Management of employee health

ESENER explored whether educational establishments arrange regular medical examinations for employees. This seems to be the case for about two-thirds of educational establishments according to the EU-27 result (55% to 61%), which is below the EU average (73% to 74%). One reason for this could be that sectors that face more severe safety risks may be more likely to provide regular medical examinations. In line with this, the sector comparison shows that mining and quarrying (89%) scored highest on this measure, compared to arts, entertainment and recreation (45%). Yet, the proportion of respondents varies considerably across countries. While in Czechia (98% to 99%) and Poland (100% to 98%) almost all respondents reported regular medical examinations, the results for Switzerland (11% to 2%) and Denmark (6% to 3%) were rather different. However, national contexts and the way health systems are set up differ across countries, which should be kept in mind when reflecting on these results. For instance, in Denmark it is unusual for the employer to provide medical treatments as healthcare is fully tax-financed.

Figure 11: Regular medical examinations performed to monitor employee health (% educational establishments by Member State for ESENER 2019 and 2014)[42]
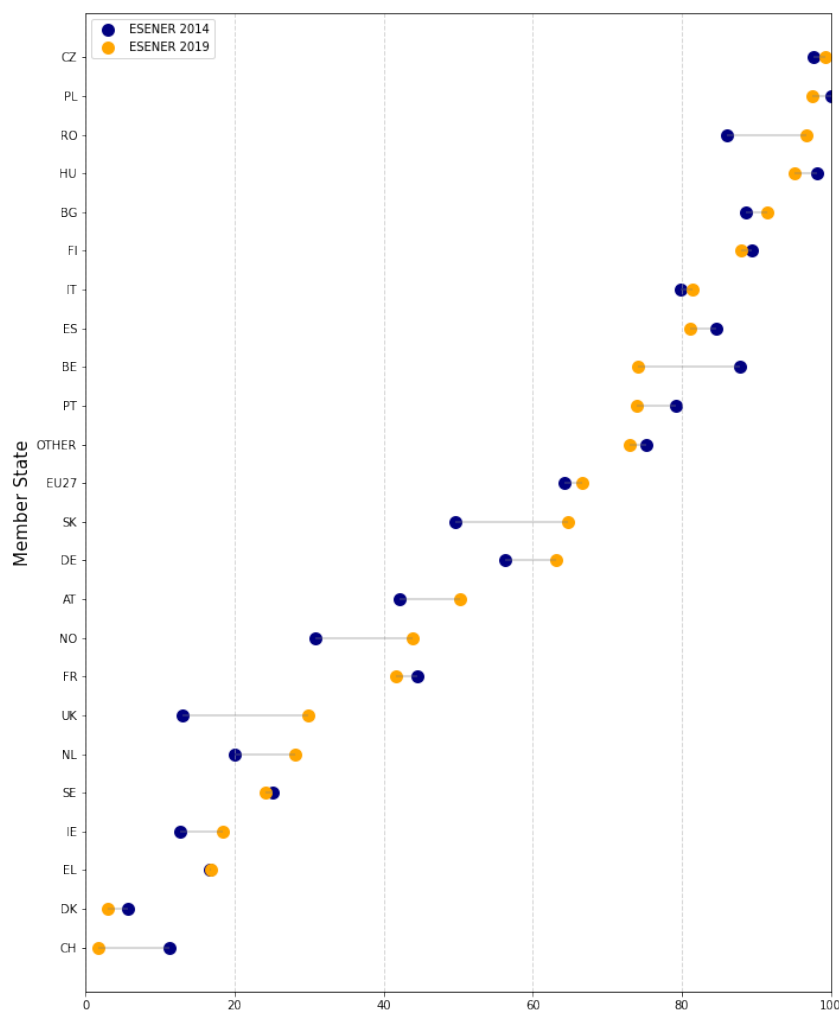
Across the EU-27, educational establishments may also actively promote employees' physical and mental wellbeing. The results for the EU-27 indicated that about half of the establishments try to improve employee health through healthy nutrition (46% to 53%), preventing addiction (43% to 44%), sport activities outside of working hours (38% to 41%), and back exercises at work (28% to 31%).[43] The data suggest that the education sector invests more in the promotion of employees' health compared to other

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[42] Base: All educational establishments.
[43] Base: All educational establishments.

sectors, as it scores above average, since the average measures across all sectors are 33%, 36%, 33%, 29% respectively.

Most educational establishments (84% of EU-27) also keep records of employees' sickness-related absences, which is slightly above the average across sectors (85%). However, in France and Hungary it is only the case in 49% and 72% of establishments, respectively, compared to all establishments in Bulgaria, Denmark, Greece, the Netherlands, Norway, Slovakia and the United Kingdom.

Figure 12: Establishments that keep a record of employees' absences due to sickness (% educational establishments by Member State for ESENER 2019)[44]
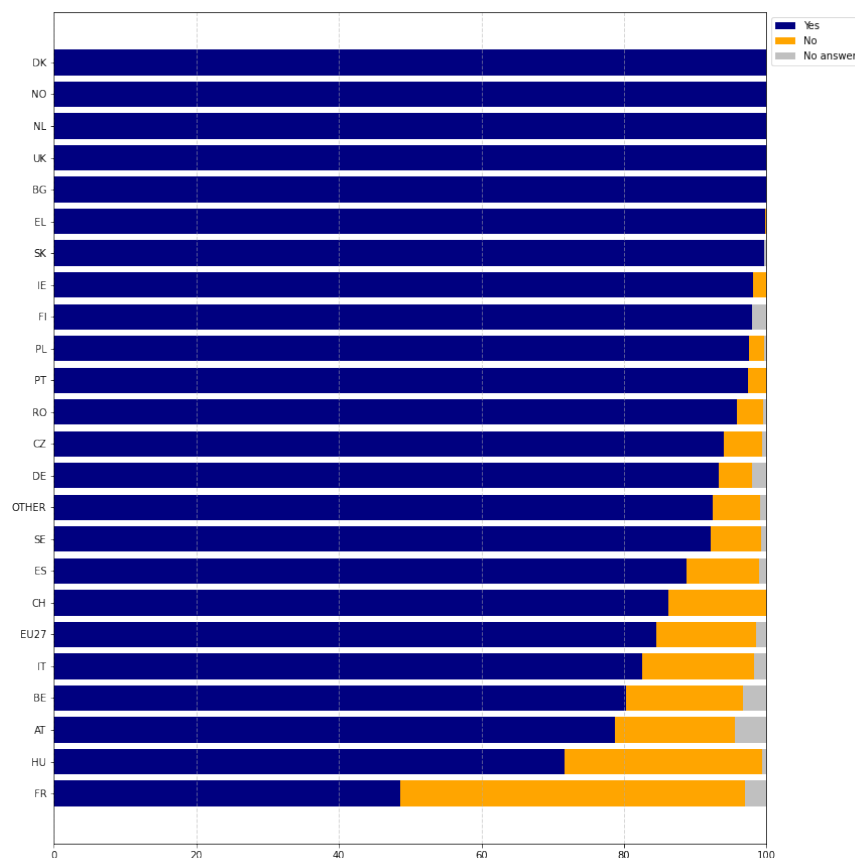
When employees return to work after a long-term sickness-related absence, employers may offer support. The survey explored this by asking establishments whether they have specific procedures for this purpose in place. Across the EU-27, more than half (57%) have such a procedure in place, which is a slight increase from 2014 (55%). While in the Netherlands and the United Kingdom all educational establishments follow such procedures, this holds for only 17% in the Czech Republic and 6% in Greece, where the number has dropped significantly from 2014 (47%). In some cases, between 2014 and 2019 such procedures have become more common in countries that already had a high adoption rate (such as Germany, the Netherlands and the United Kingdom) but have become less common in some countries where only few establishments made use of them (such as Greece, Spain and Austria). In this sense, their use has become more polarised. At the same time, there were some increases in such support such as in Belgium, Bulgaria and Switzerland. At the sector level, the education sector (65%) ranks slightly below the overall average of 68%, although above real estate activities (50%) but below some of the sectors with quite significant safety risks such as mining and quarrying (80%).

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[44] Base: All educational establishments.

Figure 13: Establishments with a procedure to support employees returning to work after a long-term sickness absence (% educational establishment by Member State for ESENER 2019 and 2014)[45]
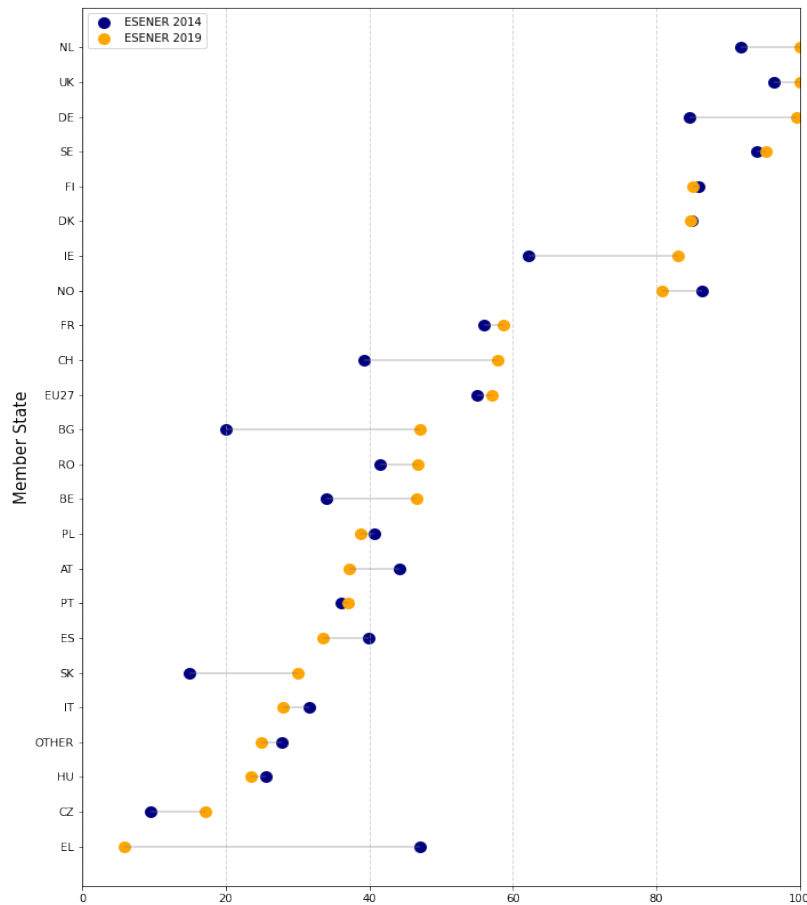
Moreover, educational establishments were asked to indicate whether they had introduced measures to promote sustainable working lives by reducing MSDs. As seen in Figure 14, the overall use of such measures has been decreasing slightly at the EU-27 level, although the provision of ergonomic equipment (62%), the possibility for people with health problems to reduce working hours (58%) and regular breaks for people in uncomfortable working positions (52%) are still used in more than half of educational establishments.

As one may expect for the education sector, the provision of ergonomic equipment (69% to 63%) is the most frequently reported measure. It is most common in Finland (87% to 89%), the Netherlands and Norway (both 88%) but used less often in Slovakia (54% to 48%) or France (51% to 43%). While some countries obtained good results, education sector stakeholders need to be mindful that the literature review showed that teachers are faced with serious MSD risks — thus, appropriate responses are needed to build awareness and make suitable equipment available.

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[45] Base: All educational establishments with at least 50 employees.

Figure 14: Measures to promote sustainable working lives by reducing MSDs (% educational establishments for ESENER 2019 and 2014)[46]
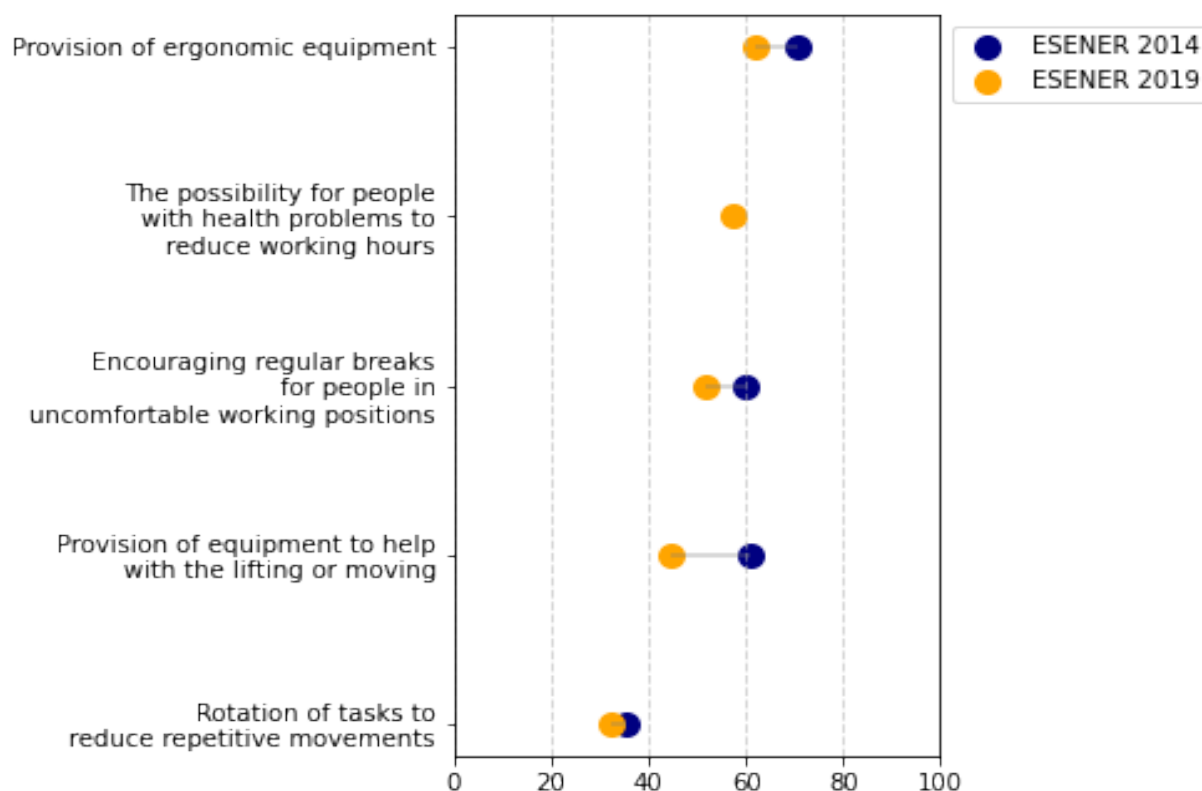
5.3 OSH commitment

The data show that in 2019, 90% of educational establishments in the EU-27 had documents in place that explain responsibilities or procedures on health and safety. This number has remained the same since 2014 and corresponds to the average across sectors. In the Czech Republic and Ireland, all educational establishments have such documents (2014 and 2019). In other cases, the numbers dropped between 2014 and 2019, such as in Switzerland (75% to 58%) and in Greece (67% to 52%). In this case, the sector variation is comparatively small, and ranges from 81% in professional, scientific and technical activities to 98% in mining and quarrying.

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[46] Base: All educational establishments.

Figure 15: Establishments with documents in place that explain responsibilities or procedures on health and safety (% educational establishments by Member State for ESENER 2019 and 2014)[47]
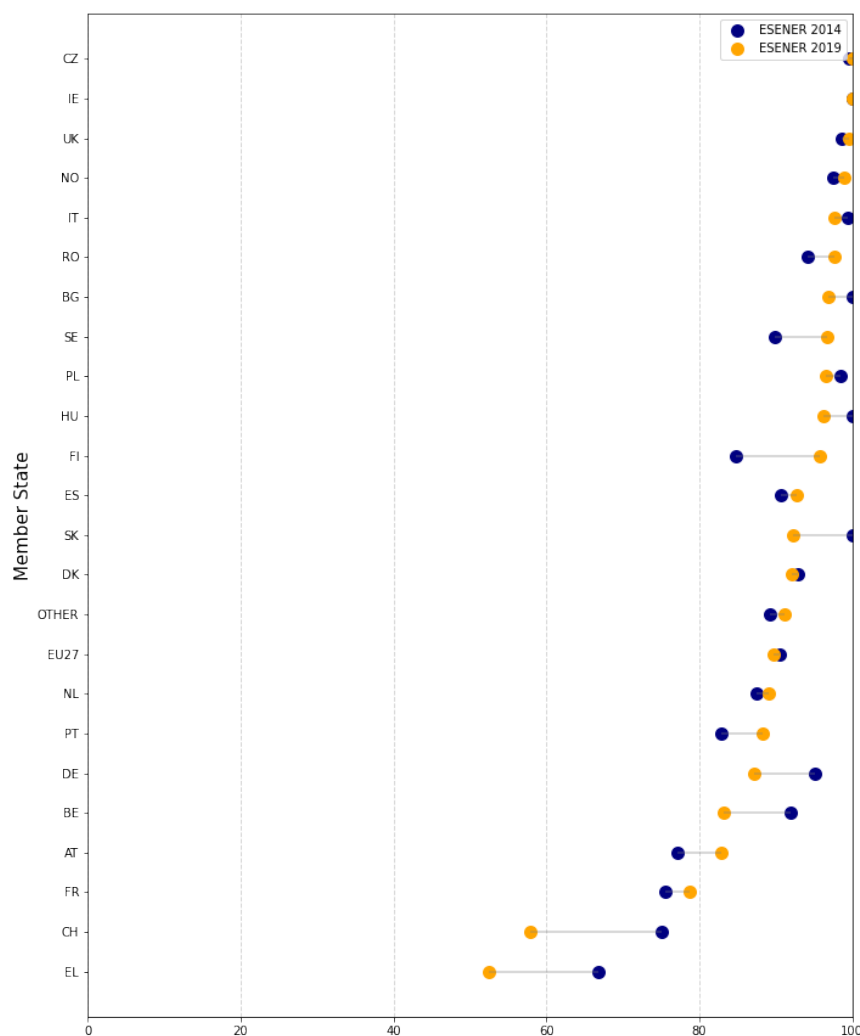
ESENER 2019 also explored how accessible these documents are to employees. Across the EU-27, 96% of establishments in the education sector said the document is available to everyone working in the establishment (slightly above the EU-27 average of 95%), 3% said it is available to everyone but on demand and 1% said it was not available for everyone. Though availability was reported to be high across all cases and was even 100% in Ireland and the United Kingdom, the Czech Republic (92%) and Austria (88%) reported lower scores.[48]

A further indication of commitment to OSH is whether OSH is discussed at the top level of management. The data indicate that such discussions happen regularly (65%) or occasionally (29%) in most cases in the EU-27. Regular discussions were reported most often in the Czech Republic (96%) and the United Kingdom (89%) but less so in Switzerland (28%) and Poland (35%).[49] Between sectors, there is relatively large variation, as 90% of establishments in quarrying and mining reported to have regular discussions while this was only the case in 50% of real estate activities. As with other OSH measures, there is a tendency for these discussions to be more regular in sectors that are dealing with more severe safety and chemical risks, as opposed to 'softer professions' like information and communication (22%).

In this context, respondents were also asked whether health and safety issues were discussed regularly in staff or team meetings. Across the EU-27, 54% do so regularly, which is slightly above the EU-27 average across all sectors (53%), although slightly below other sectors with significant safety risks, such

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[47] Base: All educational establishments.
[48] Base: All educational establishments that have documents in place that explain responsibilities or procedures on health and safety.
[49] Base: All educational establishments with at least 20 employees.

as mining and quarrying (63%). Analysing the data on country level reveals significant differences, for example, in Sweden (77%) and the United Kingdom (71%) regular discussions are the norm, while in Spain (17%) and Poland (24%) this is only done by a minority of establishments.

Apart from regular discussions the survey also explored whether employees on different levels receive OSH training. Across the EU-27, it is relatively common (64%) for team leaders and line managers in the education sector to receive OSH training. However, it differs between countries: in the United Kingdom and Bulgaria it was 86% in 2019 whereas only 38% in Switzerland.[50]

The respondents to ESENER (as the confirmed person in the establishment who knows the most about OSH) were also asked if they received any training on how to manage health and safety. Across the EU-27, this was the case for 67% of respondents in the education sector, which is below the EU-27 average of 74%. In the Czech Republic all respondents and in Denmark 96% reported to have received training compared to 49% in France and 48% in Austria.

Figure 16: Establishments where respondents have received training on how to manage health and safety (% educational establishments for ESENER 2019 and 2014)[51]
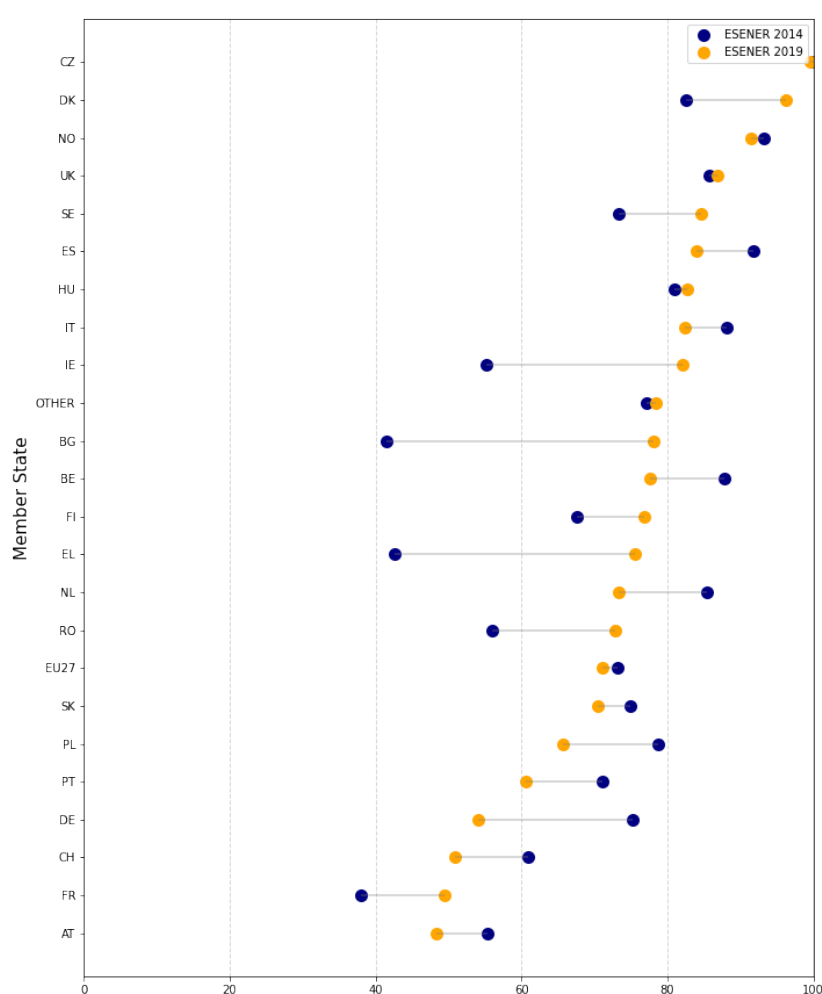
5.4 Sources of OSH advice

Educational establishments may draw advice on OSH management from different sources, both from internal and external providers. Between 2014 and 2019, 59% of educational establishments in the EU-27 reported the use of external OSH services. In the Czech Republic (89%) and Hungary (80%) this was reported by a majority while only 36.7% and 19.2% in Greece and France, respectively, used external OSH services.

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[50] Base: All educational establishments with at least 20 employees.
[51] Base: All educational establishments.

Clearly, the national context is significant in informing whether educational establishments turn to external OSH advice with differences being due to the way the education and public administration is organised, differences in legislation and the availability of finance.

Figure 17: Establishments where external OSH services were used within the previous three years (% educational establishments for ESENER 2019 and 2014)[52]
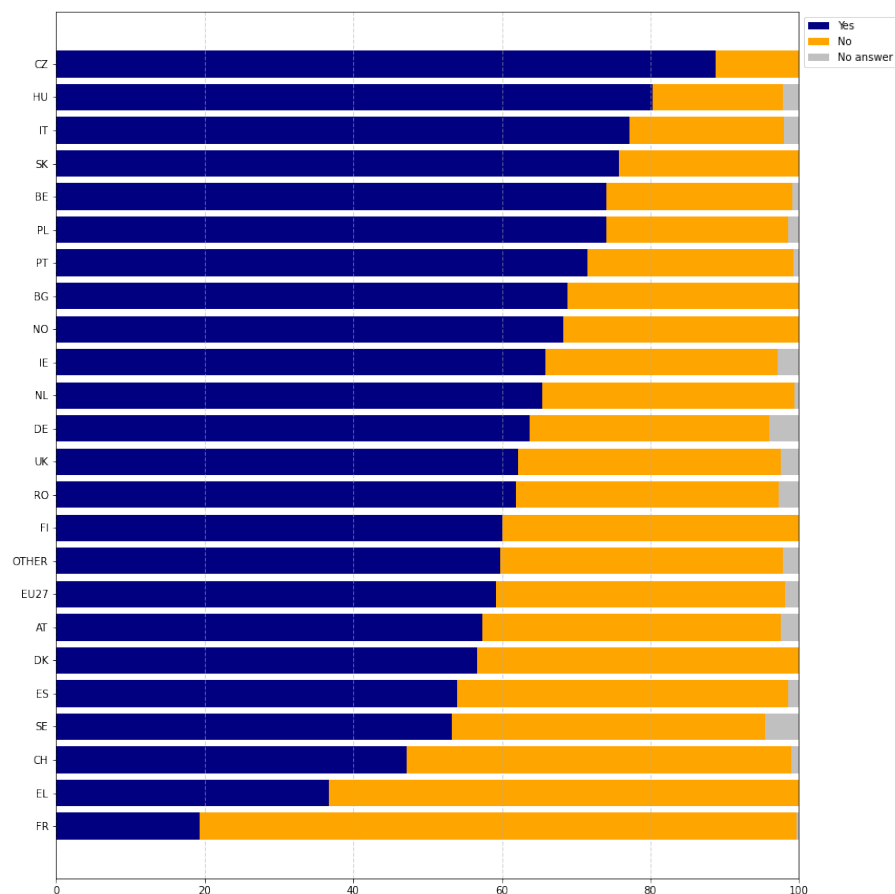
Educational establishments across the EU-27 make use of different OSH services, including occupational health doctors (70%), generalists on health and safety (66%), experts for accident prevention (53%), psychologists (34%) and experts dealing with ergonomic design (34%). Compared to other sectors, educational establishments were about average on these measures and only slightly below average in terms of the use of occupational health doctors, which is more common in sectors that typically have higher safety risks, such as electricity, gas, steam and air conditioning supply (80%), public administration and defence and compulsory social security (83%) or mining and quarrying (88%). However, the use of specific services in the education sector differs significantly across countries. For example, a psychologist is reported to be used by 89% and 95% of establishments in Romania and Finland, respectively, but only by 18% and 6% in Slovakia and the Czech Republic, respectively.[53]

The Education and Training Monitor 2021[54] also provided some insights into the use of psychologists in schools but without providing concrete data on their overall take-up. A Polish project known as Monitoring and Combatting Violence in School uses a combination of research and psychological support to address issues such as cyberbullying, responses to violence, resolving conflicts and so on. Materials and support have been provided to staff on how to take appropriate actions. The report also notes the growing trends of pupils receiving counselling support in Czechia, Estonia, Italy and the Netherlands.

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[52] Base: All educational establishments.
[53] Base: All educational establishments.
[54] European Commission, Education and Training Monitor 2021: https://op.europa.eu/webpub/eac/education-and-training-monitor-2021/en/

Respondents who made use of external providers were asked to rate the OSH services received. Overall, most respondents rated them as either 'very good' (42%) or 'quite good' (47%), which is about average when compared to the EU-27 sector average (44% and 45%, respectively). The share of respondents whose experiences with external OSH services was either quite or very good was highest in Slovakia (99%) and the Czech Republic (97%) and lowest in Spain (76%) and Portugal (75%).

Figure 18: How respondents rate external OSH services (% educational establishments for ESENER 2019 and 2014)[55]
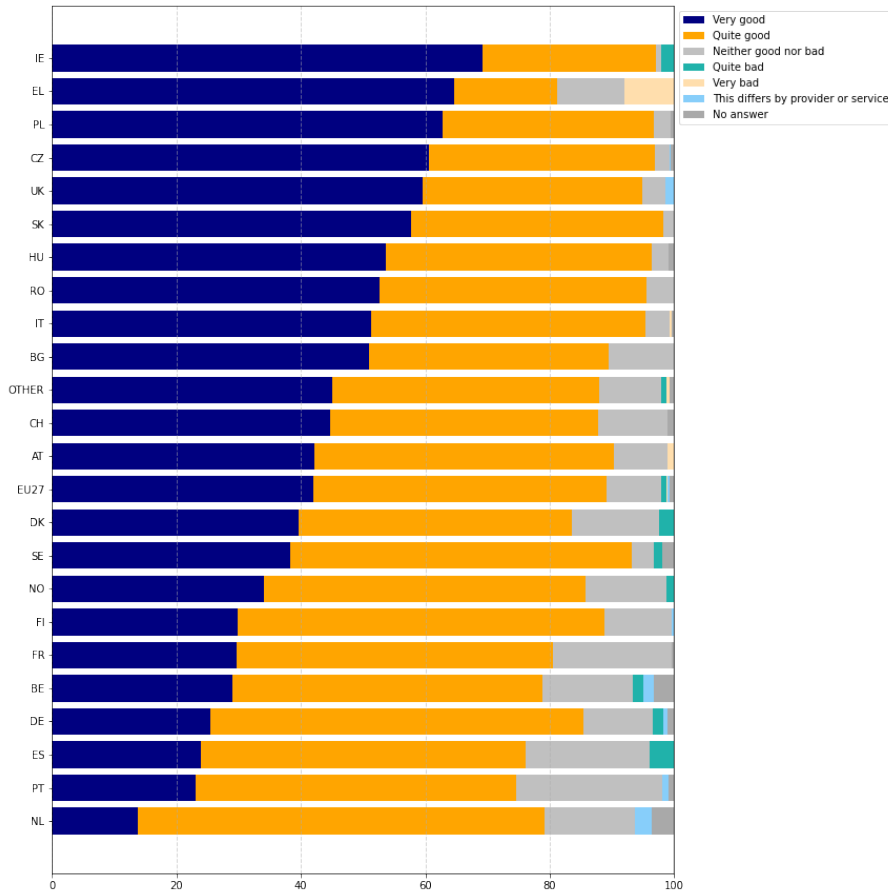
Labour inspectorates, apart from enforcing regulation, may also serve as a possible source for OSH advice. The survey therefore explored the frequency of inspections among educational establishments. The EU-27 average for the education sector shows that 32% of establishments were inspected (down by 5% since 2014), although the results indicate that the frequency varies across Member States. In Romania (83%) and Bulgaria (69%) a majority of establishments reported a visit within the previous three years although this was only true for a minority of establishments in France (14%) and Slovakia (12%). The large variance can partly be explained by regulatory differences, which are further explored in earlier research conducted for EU-OSHA's overview report on ESENER 2019.[56] The report indicated that the reduced number of inspections that have occurred across sectors generally could be due to cutbacks in funding for inspection activities. In addition, some countries reported that the complexity and thus duration of inspections increased due to the inclusion of more psychosocial risks items without increasing the number of inspectors. This led to fewer establishments reporting visits in 2019 compared to 2014. Some countries that scored particularly high on this item, such as Romania, have digitalised larger parts of the inspection processes so that they require less time.

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[55] Base: All educational establishments where external OSH services were used within the last three years.
[56] EU OSHA's Overview Report on ESENER 2019 is available at: https://www.esener.eu

Figure 19: Establishments that were visited by labour inspectorates within the previous three years (% educational establishments for ESENER 2019 and 2014)[57]
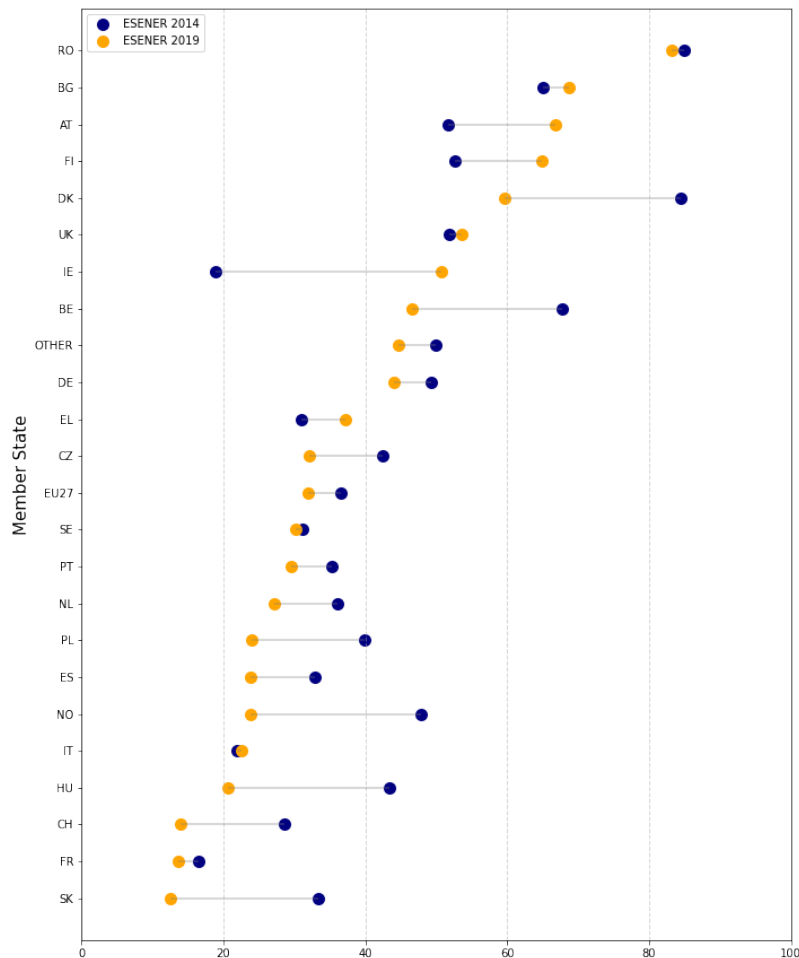
Other types of organisations may also be called upon to provide information on OSH. Educational establishments in the EU-27 use contracted health and safety experts (65%), insurance providers (39%), labour inspectorates in the context of providing supplementary information as part of visits or via information dissemination activities (36%), official institutes for health and safety at work (35%), trade unions (33%) and employers' organisations (26%). The use of contracted health and safety experts is especially common in the Czech Republic (94%) and Slovakia (84%) but less so in France (31%) and Switzerland or Greece (39%).[58]

5.5   Multivariate analysis of ESENER results

Regression analyses using ESENER data were undertaken, with the objective to assess the probability of implementing OSH management activities depending on OSH-related and contextual factors. The detailed objectives for this analysis and applied method are presented in section 2.2.

5.5.1   OSH management

In this section we examine three OSH management activities: regular completion of risk assessments, employees' involvement in the implementation of measures following a risk assessment, and frequency of discussion of health and safety issues at the top management level. In each of the above-mentioned models, we assessed various OSH factors identified in the literature review and consultation phase as important aspects that may influence OSH management activities.

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[57] Base: All educational establishments.
[58] Base: All educational establishments.

Education

Five OSH factors are significant predictor variables of <u>regular risk assessment</u>, and they hold their strength even after controlling for establishments' characteristics and country context. The most important factors are (higher chances by ~100%): 'the presence of health and safety representative' and 'fulfilling legal obligations as a reason for addressing health and safety'. This clearly suggests that introduction of formal OSH building blocks and focusing on compliance aspects are significantly associated with the chances for regular use of risk assessments. Other important factors include 'recent visits by labour inspectorate' and 'avoiding fines as a reason for addressing health and safety'. It is also worth noting that the more OSH services (such as occupational health doctor or psychologist) the establishment is using, the higher the chances for regular risk assessment.

The remaining factor — the 'perception of the complexity of legal obligations as a difficulty in addressing health and safety' — is not significant, when establishments' characteristics and country are included in the analysis. This means that the country context is a more important factor in determining the carrying out of regular risk assessments than the perception of the complexity of legal obligations. This is understandable, as legal obligations, and the actions needed to comply with them, vary between countries.

When examining the conditions that result in the <u>involvement of employees in the design of measures</u> following a risk assessment, seven OSH factors were significant after the introduction of contextual factors, meaning that those seven factors work in any context. These factors have a positive influence, that is, they are positively associated with employees' involvement. The biggest influence is when the risk assessment is conducted by internal staff (increase probability of employees' involvement in implementation of the measures by 290%, even after controlling for the context). This underlines the importance of involving employees in the overall management of health and safety broadly speaking.

In the assessment of conditions that promote managerial commitment to OSH, four OSH factors appeared to have significant influence on the probability of <u>regular discussion of health and safety at the top management level</u>, accounting for the context. All four factors — 'health and safety representative', 'regular discussion of OSH between employees and management', 'training received by team leaders', and 'meeting expectations from employees as a reason for addressing health and safety' — are positively associated with reporting of regular discussions at the top management level. The biggest influence is where team leaders and line managers receive training on how to manage OSH. This clearly shows the importance of training for team leaders as a means to improve both OSH management and organisational commitment to OSH.

Summarising, regular risk assessment is mainly supported by legal obligations and the presence of a health and safety representative in the establishment; employees are involved in the implementation of measures mainly when risk assessment is done by internal staff, and when health and safety issues are discussed and the appropriate training is provided. Finally, the management is regularly discussing health and safety when this topic is also discussed between employees and management and when training to management is provided. All of these findings suggest the crucial role of exchanging information between various stakeholders in the establishment, highlighting the importance of worker participation (or employees' involvement) in OSH management, as well as the importance of continuous training of key staff.

Table 3: Probability of OSH management activities in the establishment (in %) after accounting for contextual variables[59]

	Regular risk completion	Employees involved in measures implementation	Health & safety issues regularly discussed at the top level of management
Q154. Visited by labour inspectorate	+49	-	-
Q151. OSH services used (0-5)	+58	-	-
Q162. Health & safety regularly discussed at the top management level	-	+50	-
Q163. Team leaders and line managers receive training how to manage health and safety	-	-	+737
Q352. Health and safety regularly discussed between employees and management	-	+79	+313
Q251. Risk assessment conducted by internal staff	-	+291	-
Q308.2. Reasons making addressing psychosocial risks difficult: lack of awareness among management	n.s.*	n.s.	-
Q353. Controversies related to health and safety arise	-	-	n.s.
Q354. Health and safety representatives are provided with the training	-	+38	+30
Q350.1. Forms of employee representation: work council	-	n.s.	-
Q350.2. Forms of employee representation: trade union representation	-	n.s.	-
Q350.3. Forms of employee representation: health and safety committee	-	+30	-
Q350.4. Forms of employee representation: health and safety representative	+99	n.s.	-
Q262.1. Reasons for addressing health and safety: fulfilling legal obligations	+102	n.s.	n.s.
Q262.2. Reasons for addressing health and safety: meeting expectations from employees	-	+62	+37
Q262.3. Reasons for addressing health and safety: increasing productivity	-	n.s.	n.s.
Q262.4. Reasons for addressing health and safety: organisation's reputation	-	+31	n.s.
Q262.5. Reasons for addressing health and safety: avoiding fines	+48	n.s.	n.s.
Q263.7. Difficulties in addressing health and safety: complexity of legal obligations	n.s.	-	n.s.

n.s. = not significant (p>0.05); - not included in the model

All economic activities

The analysis of the performance of the education sector versus all other economic activities shows clear sectoral divisions of regular risk assessment. There are higher chances for regular risk assessment — compared to education — in the sectors with significant manual labour: agriculture, mining, manufacturing, electricity and gas, water supply, trade, and human health. On the other hand, in a small number of sectors using intellectual and creative skills (such as information and communication), the chances for regular risk assessment are lower than in the education sector.

Yet, the type of sector is not significant for employees' involvement in the implementation of measures — although there are a few exceptions. Compared to the education sector, only the manufacturing sector has a higher chance for the implementation of measures. However, two sectors have lower chances than the education sector: 'accommodation and food service activities', and 'financial and insurance activities'. The conclusion is that educational enterprises are rather typical when it comes to the extent of the implementation of the measures by employees.

The type of sector is only partially relevant when assessing the differences around the frequency of discussion of health and safety issues at the top management level. The establishments from the

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[59] The values indicated are normalised percentage scores — that is, in the education sector, the chances of team leaders and line managers receiving training are 737% higher if health and safety issues are regularly discussed at the level of top management.

education sector come second when assessing the chances for such discussions after water supply, sewerage, waste management and remediation activities. On the other hand, the education sector has higher chances than seven other sectors: wholesale and retail trade; repair of motor vehicles and motorcycles; accommodation and food service activities; information and communication; financial and insurance activities; professional, scientific and technical activities; public administration and defence, compulsory social security; and arts, entertainment and recreation.

Figure 20: Probability (odds ratio) of OSH management practices in education vs other economic sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)
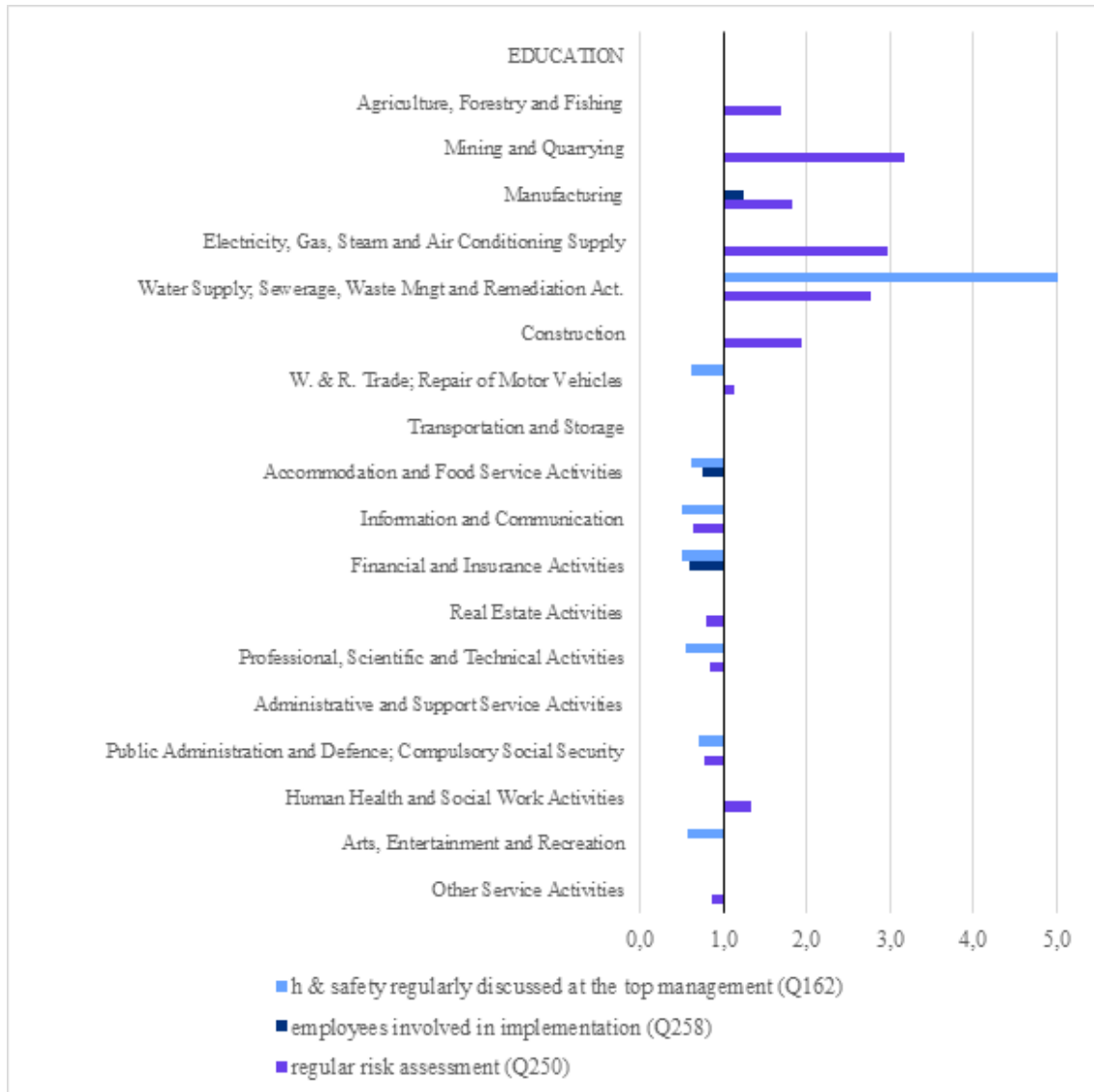
5.5.2 Main factors influencing the perception that psychosocial risks are more difficult to manage than other risks

Education

In the assessment of factors influencing the perception that psychosocial risks are more difficult to manage than other risks, 13 OSH factors were used.

Out of 13 OSH factors included in the model, six had a significant positive association with the probability of considering psychosocial risks as more difficult than other risks. However, only five of them work in every context: reorganisation of work (increasing the probability by 28%); confidential counselling

(+47%); training on conflict resolution (+29%); fulfilling legal obligations (+48%); and the number of OSH services used (each additional service used increases the probability by 6%).

This means that those five OSH measures are positively associated with the perception of psychosocial risks as more difficult. Additionally, the more OSH services an establishment is using, the more often it is perceived that psychosocial risks are more difficult. We need to remember that the relationship described above can be reciprocal, that is, OSH services may influence the perception of the difficulty of managing psychosocial risks, or the perception may influence the need to use OSH services.

The following factors are negatively associated with perceiving psychosocial risks as more difficult (when accounting for the context): increasing productivity (by 22%), and meeting expectations from employees as reasons for addressing health and safety (by 14%) as well as whether establishments have sufficient information on how to include psychosocial risks in risk assessments (by 45%) and allowing employees to take more decisions on how to do their job (by 17%). When 'increasing productivity' or 'meeting expectations from employees' are reported as a driver for OSH, psychosocial risks are less frequently reported as more difficult than other OSH risks.

Existing literature does not provide evidence on the exact relationships described above. However, there is evidence that psychosocial risks are different than traditional risks, for example, risk perception and awareness about risks among managers and employee representatives are different when it comes to psychosocial risks compared to other risks. Risk management practices, such as clear responsibilities and coordinated procedures, are important in dealing with psychosocial risks.[60, 61]

All economic activities
There is no sector with higher chances than the education sector for the perception that psychosocial risks are more difficult to manage than other risks. Therefore, the importance of psychosocial risks, and the awareness of how difficult this type of risk is, in the education sector in very high.

Establishments from several sectors have lower chances than the education sector for perception of psychosocial risks as being difficult to address. This may suggest that educational enterprises are characterised either by high psychosocial risk incidence or better understanding of those risks.

In five activities this probability is similar: electricity, gas, steam and air conditioning supply; water supply, sewerage, waste management and remediation activities; financial and insurance activities; public administration and defence, compulsory social security; and human health and social work activities. This means they are similar in the perception of difficulty of managing psychosocial risks.

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[60] Houtman, I., van Zwieten, M., Leka, S., Jain, A., & de Vroome, E. (2020). Social dialogue and psychosocial risk management: Added value of manager and employee representative agreement in risk perception and awareness. *International Journal of Environmental Research and Public Health, 17*(10), Article 3672. https://doi.org/10.3390/ijerph17103672
[61] Lunau, T., Dragano, N., Siegrist, J., & Wahrendorf, M. (2017). Country differences of psychosocial working conditions in Europe: The role of health and safety management practices. *International Archives of Occupational and Environmental Health, 90*, 629–638. https://doi.org/10.1007/s00420-017-1225-z

Figure 21: Probability (odds ratio) of respondents' perception that psychosocial risks are more difficult in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)

5.6 Composite indicators

Based on ESENER 2019 data, the study developed a series of composite indicators to compare education sector performance related to key OSH policy areas.[62]

The purpose of the composite indicators is to summarise the performance of the education sector in different key OSH areas using several ESENER measures. One key area concerns risk assessments.

The composite indicators combined and weighted the results of several ESENER 2019-related measures to produce two ranking statistics:

- international comparison – the country rank of national education sectors on ESENER 2019 measures; and
- national comparison – the rank of the education sector compared to other national sectors on ESENER 2019 measures.

To help describe the position of the countries, a cluster analysis was conducted, visualised using colour coding. Figure 22 provides an overview of the results concerning risk assessments.

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[62] The methodology is described further in the Annex.

Figure 22: Risk assessment
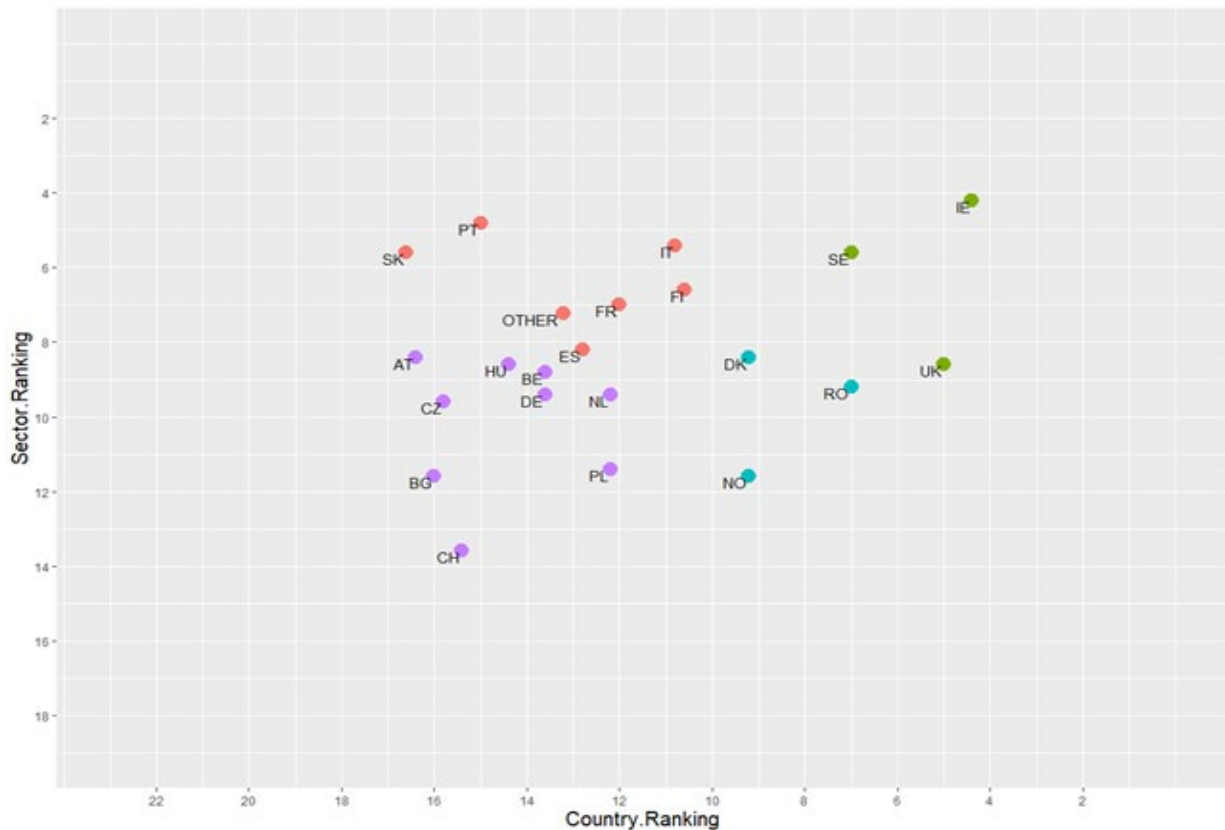
In terms of the sector ranking on risk assessment management, generally it shows that the education sector performs moderately well across the EU, although there seems to be some room for improvement.

The green country cluster (Ireland, Sweden and the United Kingdom) scored the highest internationally, compared to other countries, whereas the red country cluster performed the best nationally compared to other sectors.

On the other hand, the purple country cluster (Austria, Belgium, Bulgaria, Czech Republic, Germany, Hungary, the Netherlands, Poland and Switzerland) is characterised by comparatively lower-ranking scores on risk assessment measures for the education sector both within and across countries.

Figure 23 provides the composite indicator results concerning the level of OSH commitment.

Again, four clusters were identified. The leading cluster (purple) has some internal differences though: while some countries perform strongly nationally -that is, against national sectors in their own country-, and internationally -that is, compared to the performance of the education sector of other countries (Bulgaria, Czech Republic, Ireland, Italy, Norway, Sweden and the United Kingdom)-, there are others that mainly obtain strong international ranking scores (Ireland, Italy and Norway). The blue cluster (Austria, France, Greece, Spain and Switzerland) obtained the lowest-ranking scores for the education sector internationally and nationally.

Figure 23: OSH commitment
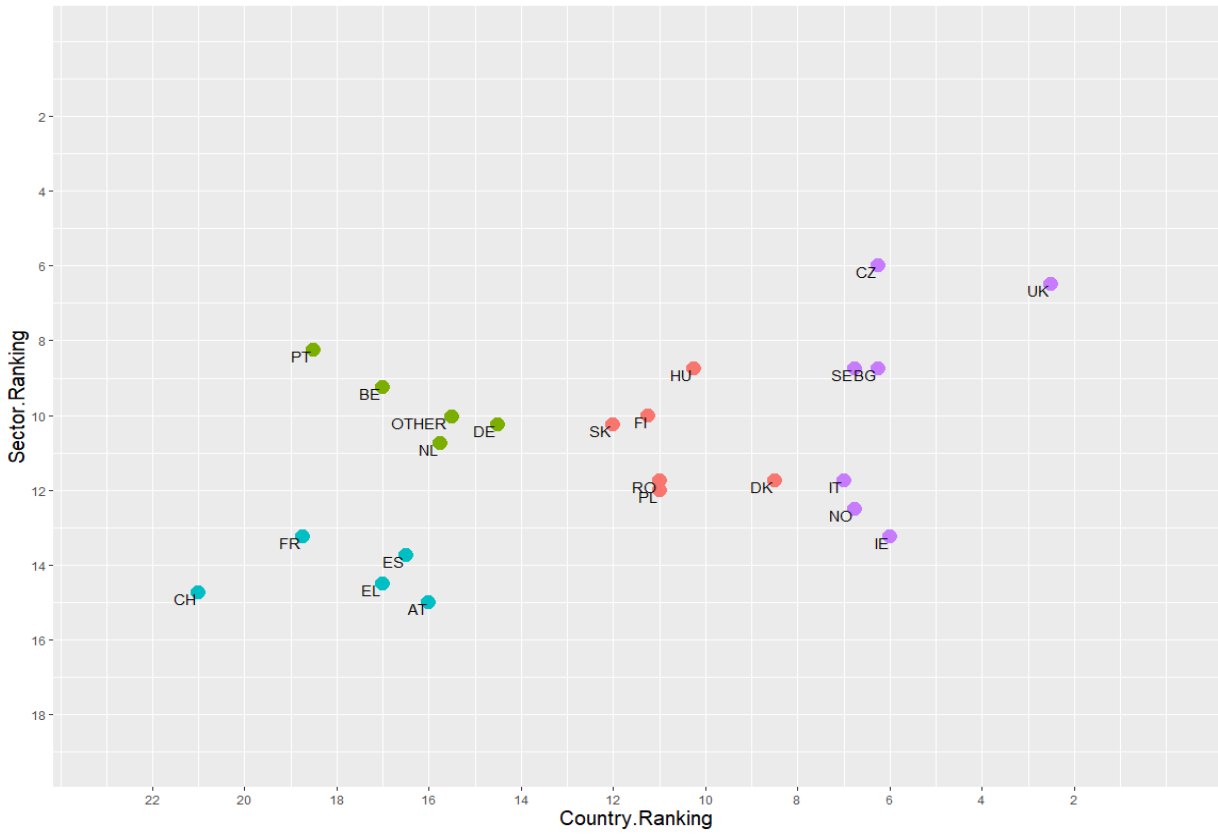
6 OSH management of psychosocial and digitalisation risks in the education sector

6.1 Introduction

As shown by the literature review (see Chapter 3), the education sector is exposed to relatively severe psychosocial risks due to the nature of the working environment including the expectations placed on teachers by managers and parents, and the demands and behaviour of students. Without careful management, these risks may lead to lack of job satisfaction, severe anxiety, stress and burnout, and long-term sickness absence that clearly have knock-on effects on the quality and stability of teaching.

As with 'traditional' safety risks, psychosocial risks require a controlled management approach to identify and mitigate risks upfront and implementation of predefined measures so that appropriate actions can be taken when instances arise.

Our case studies on the education sector in five countries also point to an intensification of psychosocial risks since the onset of the COVID-19 pandemic and through the adoption of digital teaching and communication channels, making both teaching and engagement with parents more challenging.

To explore OSH management trends in these areas, this chapter provides an overview of the results from the ESENER surveys as follows:

- a summary of the results is provided to introduce the chapter;
- the steps taken to manage psychosocial risks are explored;
- risks and management approaches connected to digital technologies are assessed; and
- results of multivariate analyses of ESENER data on psychosocial risk management are provided.

6.2 Summary of ESENER 2019 findings

Psychosocial risk management

With respect to psychosocial risk management, the results showed that 42% of the educational establishments employing at least 20 persons had specific action plans in place aimed at reducing workplace stress. Clearly, this is a high proportion compared to the EU-27 average of 36%, and the share has increased since 2014. While heavy industries, such as construction and mining and quarrying, have scored higher on other OSH management items, they reported the use of measures to address psychosocial risks less often, highlighting once more that though these sectors may, for example, conduct risk assessments more regularly, they are less aware or motivated to address psychosocial risks with the same level of determination as they do with other risks. Considering the high share of educational establishments that took steps to reduce psychosocial risks, it seems that parts of the education sector are aware of the key OSH challenges they face and have made some efforts to mitigate the risks. However, apart from sector differences, the results also show significant country differences, ranging from 6% in the Czech Republic to 84% in the United Kingdom.

Furthermore, 67% of the establishments employing at least 20 persons in the education sector reported that they have procedures in place to deal with cases of bullying and harassment, compared to the sectoral average of 52%. Also here, an increase could be observed since 2014, which could in part be due to efforts of many European stakeholders during that time to put the issue of psychosocial risks on the agenda of policy-makers. Moreover, management of psychosocial risks using procedures to respond to threats, abuse or assault caused by external individuals has been introduced in 75% of the educational establishments employing at least 20 persons, compared to 52% across all sectors. However, the actual risk of being exposed to abuse or assault caused by external individuals, such as students, may vary across different levels or parts of the education system. For example, the Irish case study showed that the risk is higher with teenage pupils in special needs facilities considering their physical strength. As a result, the actual use of procedures could vary across levels of education. While the results possibly suggest that further action is needed, the Irish case shows that such risks are generally well recognised as needing careful management in the education sector.

Apart from these procedures, approximately half of the educational establishments also use other measures to prevent psychosocial risks proactively: increased decision authority, training on conflict resolution, confidential counselling, and measures to reorganise work. About a quarter of the establishments intervene if excessively long or irregular hours are worked.

About a third of the educational establishments found it more difficult to address psychosocial risks than other risks, which ranks highest compared to other sectors, with only 9% and 14% of establishments in mining and quarrying and accommodation and food service activities reporting psychosocial risks being more difficult to address. Especially establishments in the Nordic countries found it more difficult addressing psychosocial risks even though they have comparatively advanced approaches. This is quite interesting as it seems in some cases that where steps have been taken, such as introducing counselling services, the challenges of securing a strong psychosocial work environment are more apparent. This is likely due to an increased realisation of the challenges after some experience is gained in trying to manage such risks.

Moreover, across the EU-27 two-thirds of the establishments in the education sector reported that they had sufficient information to include psychosocial risk factors in risk assessments, which is about average across sectors, with human health and social work activities ranking highest (71%) and electricity, gas, steam and air conditioning supply lowest (53%). Interestingly, some countries scored very high on this measure and the above-mentioned measure concerning the challenges of managing such risks (e.g. Denmark). Again, this might seem counterintuitive, but the recognition or identification of psychosocial risk factors may not necessarily secure the ability to address or solve the problems in adequate ways. For example, the establishment of measures to prevent psychosocial risks that involve management and staff collaboration may be a complex task (Mac & Albertsen, 2020).

Moreover, although two-thirds of the educational establishments reported sufficient information to include psychosocial risks factors in risk assessments, only half of the educational establishments across the EU-27 reported to include questions on work-related stress on a regular basis. In the Nordic countries more than 90% did so, while in other countries the share was much lower.

More than two-thirds of the educational establishments in the EU-27 encourage employees to play a role in the design and set-up of measures to address psychosocial risks. This is higher than in other sectors, but there is significant variation between countries despite the high level of awareness around psychosocial risks. A reason for this may be that employee involvement is strongly driven by national practices and conditions. As the German case study revealed, interviewee respondents suggested that education employees have limited personal resources to be involved in the identification of risks and the design and implementation of measures.

A key theme emerging from the case study research is that teachers often prioritise pupils' educational progress and psychosocial wellbeing above their own needs. This is reflected in their commitment to fulfilling their duties including working consistently outside of normal hours and in supporting children, especially those in challenging circumstances. In some cases, teachers may not formally address issues relating to difficult children or parents as they may not see this as an appropriate solution, for example, it may not be in the interest of the children if they are excluded from school. Clearly, this type of environment raises the risk of burnout and distress. Moreover, it was also suggested that violence towards staff is a growing trend that is also negatively affecting the wellbeing of teaching staff.

Moreover, the case studies noted that the high expectations placed on teachers to support pupils to achieve excellent results is a major source of stress. This includes the role of managers in monitoring the performance of staff and also through interactions with parents. The need to achieve excellent results has continued throughout the COVID-19 pandemic despite the challenges of online teaching and reduced direct pupil contact.

Analyses based on an overall composite indicator of psychosocial risk management showed that the psychosocial risk management seems to converge regionally:[63] the Scandinavian countries (except Norway) had particularly good psychosocial risk management practices in the education sector both compared to other countries and other national sectors. Another group of countries including Greece, Spain, France, Hungary and Portugal ranked relatively low in comparison to other national sectors in their own country and when compared to the education sector of other countries. However, compared to other sectors, the education sector does comparatively well overall in managing psychosocial risks.

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[63] The measures used to form the composited measure included:
   1. Does your establishment have an action plan to prevent work-related stress?
   2. Is there a procedure in place to deal with possible cases of bullying or harassment?
   3. And is there a procedure to deal with possible cases of threats, abuse or assaults by clients, patients, pupils or other external persons?
   4. Did the employees have a role in the design and set-up of measures to address psychosocial risks?
   5. Do you have sufficient information on how to include psychosocial risks in risk assessments?

Digitalisation risks

As expected, across the educational establishments within the EU-27, the use of personal computers, laptops, smartphones and other devices are generally common across all countries. Risks associated with the increased use of such devices were also brought up in expert interviews. Yet, although higher than other sectors, the ESENER 2019 survey showed that just a third of the educational establishments reported discussions on the possible impact on employees' health and safety. In this context, the main issues discussed included the 'need for continuous training to keep skills updated', 'prolonged sitting', 'information overload', and 'increased work intensity or time pressure'. In somewhat fewer establishments the discussions had covered issues such as: 'more flexibility for employees in terms of place of work and working time', 'blurring boundaries between work and private life', 'repetitive movements' and 'fear of job loss'. The statistical modelling showed that several factors increase the chance of discussing digitalisation risks, including regular OSH discussions among top management, regular completion of risk assessments, and the presence of a health and safety representative.

As mentioned in the literature review, and as also emphasised during the interviews with EU social partners, the increasing digitalisation of teaching tasks, whether full or partial, has presented challenges, such as the need to learn new skills to engage with new systems, loss of control of the classroom, higher levels of administrative tasks, and problems associated with privacy and data protection. New AI-based systems that provide tailored learning support to pupils were also mentioned as an emerging issue that requires monitoring. This echoes the findings EU-OSHA's overview study on the introduction of AI in the working environment, and the specific report on the use of AI for the automation of tasks (both physical and cognitive), which has documented OSH-related concerns around privacy issues and collection of data on staff and students (EU-OSHA, 2022). Another concern that was raised during interviews with EU social partners is the risk of deepening differences in learning outcomes among pupils, which in turn increases pressure for educators. For instance, when an increasing part of the learning experience is dependent on students having access to digital tools not only at school but also at home, then some pupils will be more likely to fall behind when they are not given the same opportunities as their peers. As teachers typically are extremely committed to helping students and are also expected to do so by their employers and society, it may cause additional pressure.

COVID-19

Considering the COVID-19 pandemic and the specific challenges experienced for many employees working from home, it is particularly important to be aware that digital risks and their possible impact on employees' health and wellbeing were in many establishments not discussed. Without a tradition of discussing these issues, the education sector was not well positioned for the transition since the pandemic began.

Also, the results suggesting that psychosocial risks in some countries and in some establishments were not very well covered by risk assessments may also prove problematic for the post-COVID-19 work environment.

As presented in the case studies, teachers have under the COVID-19 pandemic been struggling with working at home due to poor equipment, unsuitable home office facilities and long hours. Furthermore, positive resources of social support from colleagues and management as well as the meaningful interactions with pupils and students were also more difficult to obtain under the lockdown. In some countries, the lockdown has further revealed that some pupils' families were not able to provide the necessary tools for digitalised teaching at home. Given these new and challenging demands, it is extra important that these issues are covered by risk assessments.

Psychosocial risk management

To shed light on the dynamics in educational establishments around psychosocial risk management, several regression analyses were performed. The results suggested that the use of an occupational health doctor is associated with higher probability to report: time pressure, poor communication or cooperation, difficult customers, and long or irregular working hours. The use of a psychologist was positively correlated with the reporting of job insecurity and difficult customers, and the use of an expert dealing with ergonomic design was positively related to the reporting of time pressure. Clearly, the use of OSH specialists helps to build OSH awareness and thus increases the likelihood of identifying psychosocial risks in the workplace.

Out of all examined risks, no factors were found to decrease the probability of reporting time pressure, job insecurity and difficult customers. But the risk of long or irregular working hours was lower when an

expert dealing with ergonomic design was used, and when documents were in place that explain responsibilities or procedures on health and safety. And, the presence of an expert for accident prevention decreased the probability for reporting poor communication or cooperation.

The main reason encouraging the management of psychosocial risks was meeting expectations from employees for health and safety. This shows that the adoption of concrete measures and the attitude of managers towards the wellbeing of staff play a key role in managing risks.

It also seems that if organisational aspects are routinely evaluated in risk assessments, it increases the chances for the use of measures that may prevent problems from occurring, such as: 1) reorganisation of work, 2) intervention if excessively long or irregular hours are worked, and 3) allowing employees to take more decisions on how to do their job.

Policy pointer: On average, the education sector seems to be performing better than other sectors concerning the management of psychosocial risks, but there is still huge variation between countries, and a considerable part of the education sector does not have adequate procedures and skills to manage psychosocial risks. Considering the high prevalence of psychosocial risks in the sector, these limitations likely carry serious health consequences for affected employees.

Results from the regression analyses confirmed that many of the psychosocial factors and measures taken are related to each other, and show that if psychosocial risks are taken seriously, establishments will be proactive in taking action. Such steps may not solve all problems but are likely to ensure that organisations can more effectively deal with them. The results showed that one of the most important factors for the management of psychosocial risks is meeting expectations from employees as a main reason for addressing health and safety. Thus, as one may expect, the level of managerial recognition towards staff wellbeing seems to be linked to the extent that actions are taken to manage the psychosocial working environment.

Furthermore, it is important to remember that awareness and adequate measurement of psychosocial risks are important and necessary steps, but not tantamount to the ability to manage and prevent psychosocial risks in the establishments. In many establishments, both internal and external OSH experts such as psychologists and occupational health doctors, discussions at the top management level, involvement of employees in the process and new qualifications may be needed for effective prevention. The results showed that taking positive steps will likely lead to the introduction of concrete actions such as improved decision authority, training on conflict resolution, confidential counselling and measures to reorganise work.

Given the transition to home working, and the fact that this practice is likely to become part of the 'new normal' post-COVID-19, actions are needed to strengthen the risk management of digitalisation activities. This includes ensuring that risks can be managed around providing classes either partly or fully online, ensuring compliance with data privacy and other administrative steps, establishing suitable home working practices and use of appropriate equipment. In addition, digital tools, and those systems still in development such as AI-driven teaching platforms, should undergo proper risk assessment and feature in staff discussions on OSH.

While building awareness is clearly needed, further positive steps may include stronger employee involvement and specific training of OSH representatives, promotion of the regular use of risk assessments and their coverage of all key OSH risks, and stronger commitment from management in recognising and acting upon such risks.

Moreover, where establishments appoint a health and safety representative, the chances for the use of key measures also increases, such as the: 1) reorganisation of work, 2) confidential counselling for employees, and 3) training on conflict resolution.

Similarly, where procedures to deal with possible cases of threats, abuse or assault are introduced, they increase the chances for the use of measures, such as: 1) confidential counselling for employees, 2) training on conflict resolution, and 3) allowing employees to take more decisions on how to do their job.

6.3 Measures taken for psychosocial risk management

The survey explored the measures that establishments take to identify and mitigate different psychosocial risks, such as work-related stress. In this context, respondents were asked whether their establishments have specific action plans in place that aim at reducing stress. In the EU-27, this was the case in 42% of educational establishments, which is above the EU-27 average of 36%. In comparison to specific sectors, action plans are most commonly used in financial and insurance activities (47%), other service activities (47%), and human health and social work activities (56%) as opposed to mining and quarrying (22%) or real estate activities (23%). The highest country scores were obtained in the United Kingdom (84%) and Sweden (78%), compared to Portugal (14%) and the Czech Republic (6%), with the scores also increasing over the 2014 to 2019 period for the former group, while they decreased for the latter.

While the United Kingdom scored particularly high on this ESENER measure, recent research[64] on teachers' mental health during the pandemic found that 47% of higher education staff describe their mental health as poor, with levels of stress and anxiety considerably above the national average of other professions. However, this research was conducted after 2019 and after the onset of the pandemic, which likely impacted the results.

Moreover, while the impact of the COVID-19 pandemic on the psychosocial wellbeing of teachers has been commonly associated with primary and secondary levels, a French study on researchers in higher education and other sectors noted a similar threat to their mental wellbeing due to imbalances in professional and personal life, mental workload and an amplification of pre-existing difficulties, although, as mentioned, the COVID-19 pandemic has provided some notable benefits for some researchers, for example, around creating possibilities to spend more time on writing publications.[65]

Comments made by EU social partners suggested that the support available to address psychosocial risks is lacking generally for the education sector but especially in some of the countries with low ESENER scores. One issue is that the guidance around risk assessments available to schools does not sufficiently cover psychosocial risk management, thus leading to a limited adoption of measures. This is also reflected in the ESENER 2019 results: while 87% of educational establishments include dangerous chemicals or biological substances in their risk assessments, only 56% look at supervisor–employee relationships. Though this is a common trend across sectors, establishments in human health and social work still score higher as 70% reported to cover such risks in their risk assessments.

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[64] Wray, S., & Kinman, G. (2022). *Supporting staff wellbeing in higher education*. Education Support. https://www.educationsupport.org.uk/media/x4jdvxpl/es-supporting-staff-wellbeing-in-he-report.pdf
[65] Available at: https://www.csee-etuce.org/en/policy-issues/covid-19/4621-french-study-the-psychosocial-impact-of-covid-19-on-researchers

Figure 24: Establishments that have an action plan in place to prevent work-related stress (% educational establishments by Member State for ESENER 2019 and 2014)[66]
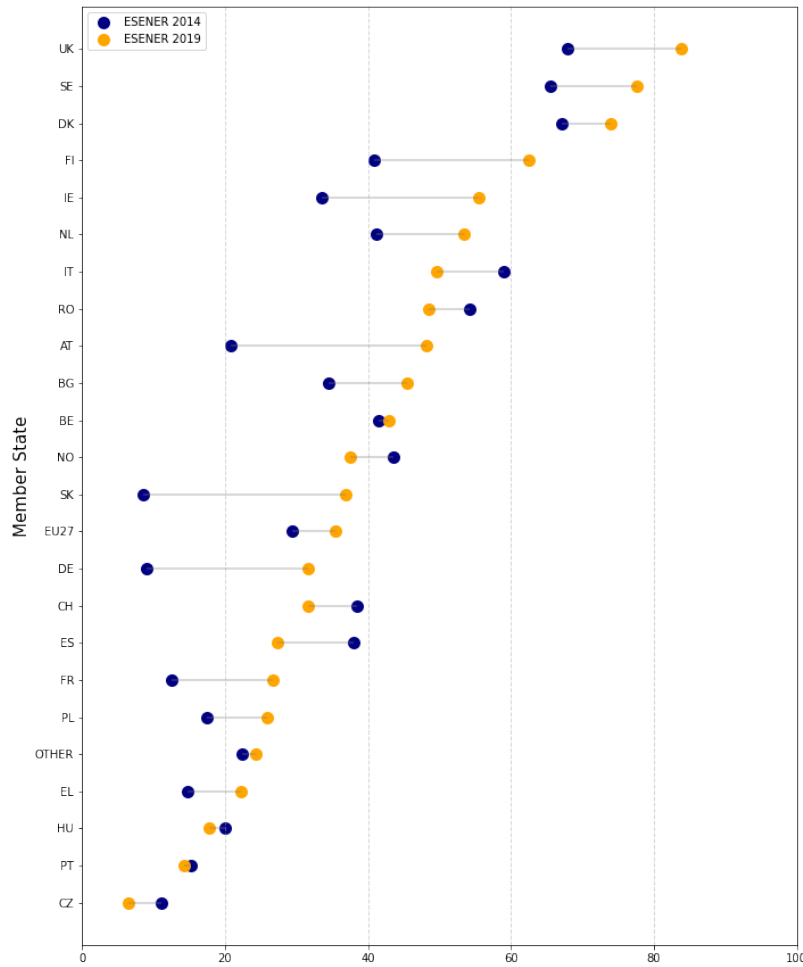
Similarly, establishments may follow specific procedures for other types of psychosocial risks, such as in cases of bullying or harassment. The survey thus asked respondents if their establishments have procedures in place that deal with these cases. The data shows that this is relatively common across the EU-27 (45%), however, with some variation across sectors and countries. For example, only 38% of establishments in agriculture, forestry and fishing have procedures in place, compared to 67% in the education sector. At country level, all United Kingdom and Irish educational establishments seem to follow specific procedures to prevent bullying and harassment compared to 11% in Hungary and 47% in Italy. However, Hungary seems to be an outlier as there are only few countries where less than half of the establishments seem to have procedures in place.

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[66] Base: All educational establishments with at least 20 employees.

Figure 25: Establishments that have procedures in place to prevent cases of bullying or harassment (% educational establishments by Member State for ESENER 2019 and 2014)[67]
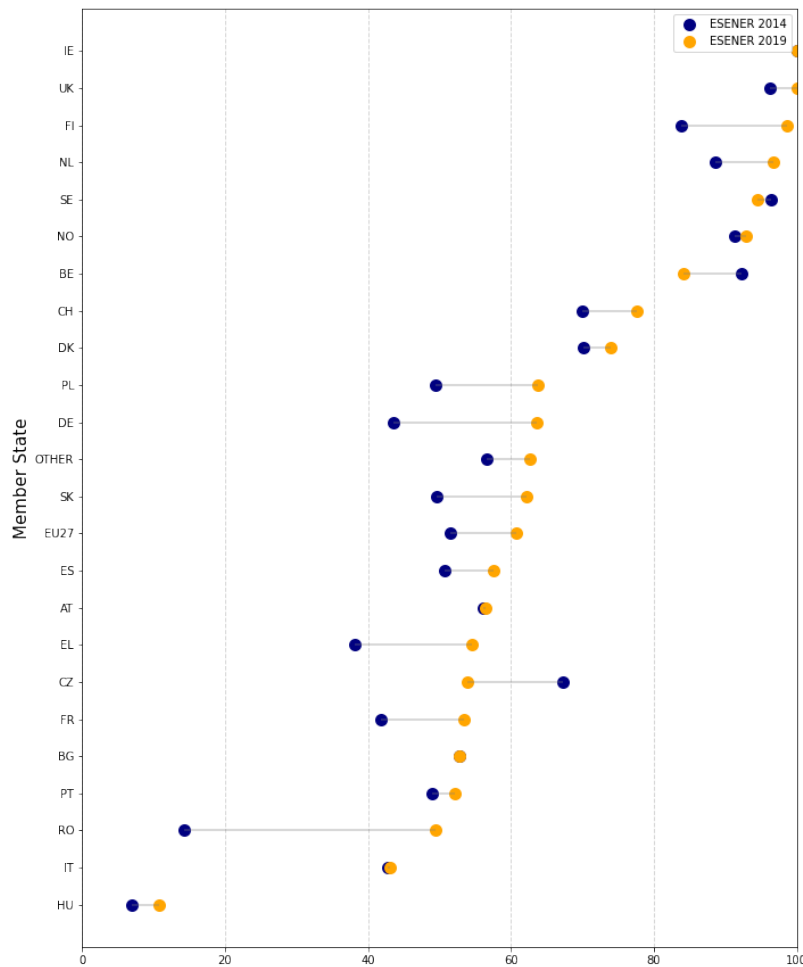
Psychosocial risks may also arise through negative interactions with external persons, such as parents or pupils, and in the worst cases may involve threats, abuse or assaults. Our case research in Germany illustrated that teachers in primary and secondary schools feel that parents sometimes put too much pressure on them to support their children to attain excellent results, or have expectations for their children that cannot be fulfilled. Whereas the case in Denmark highlighted the ongoing worries that some primary- and secondary-level teachers have in dealing with difficult children who may be verbally or physically abusive, at the same time they are sometimes concerned that taking further action may not be in the long-term interests of the children.

To identify efforts to manage these risks, ESENER surveys gathered information on whether there are procedures in place that may respond to such incidents. Overall, it seems that educational establishments in the EU-27 do actively try to manage these risks as 75% have procedures in place, compared to the average of 52% across all sectors. In line with other action plans and procedures dealing with psychosocial risks, all establishments in Finland (100%) and usually establishments in the United Kingdom (99%) and Ireland (98%) have procedures in place, which is however not the norm in Hungary (18%) and Italy (43%). One interviewee commented that the positive results in Ireland are likely due to the strong cooperation and steps taken by national social partners to formalise psychosocial risk management.

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[67] Base: All educational establishments with at least 20 employees.

Figure 26: Establishments that have procedures in place to deal with possible cases of threats, abuse or assaults by external persons (% educational establishments by Member State for ESENER 2019 and 2014)[68]
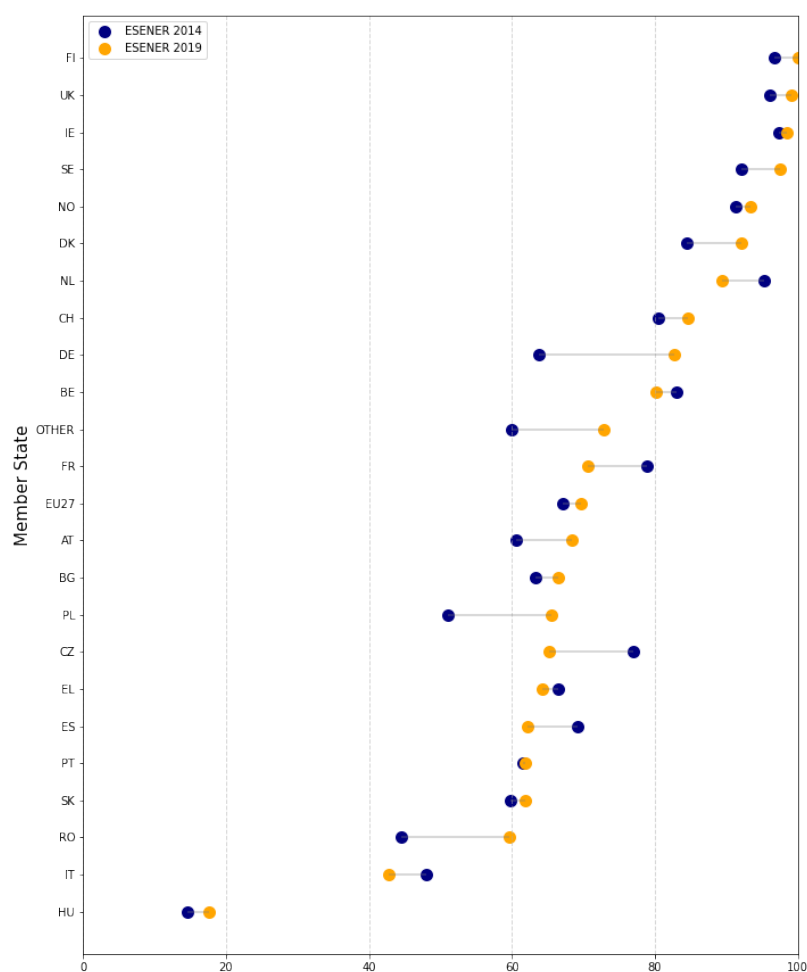
Apart from the aforementioned procedures and action plans, the survey also explored the use of other measures to prevent and reduce psychosocial risks. Across the EU-27, 66% of educational establishments take measures that allow employees to take more decisions on how to do their job, 55% offer training on conflict resolution, 49% provide confidential counselling for employees, 42% take measures to reorganise work, and 23% intervene if excessively long or irregular hours are worked. Across all measures, Danish and Finnish establishments obtained the strongest results, for example, 95% of Finnish establishments allow employees to take decisions on how to do their job, and 81% of Danish establishments permit reorganisation of work, although training on conflict resolution was most frequently introduced in Ireland (76%).

The results also revealed whether these measures were taken in response to specific problems or if establishments introduced them proactively without any concrete triggers. The data indicated that in the majority of cases (76% on average across the EU-27) new measures are not triggered by any concrete issues and only partly so in 3% of cases. The country-level data show that measures often follow specific problems in Denmark (49%), Finland, France and Switzerland (34%) but very rarely in Hungary (1%) or Poland (2%).[69] This evidence seems to show that specific triggers may not result in changes in OSH management in educational establishments, suggesting that support and engagement with education sector managers are needed to encourage more formalised management of psychosocial risks. At the same time, the education sector seems to be more responsive in introducing measures in response to specific triggers when compared to other sectors, suggesting that these types of events are better understood as a threat to the working environment. For example, sectors that involve manual work, such

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[68] Base: All educational establishments with at least 20 employees.
[69] Base: All educational establishments that have implemented measures to prevent psychosocial risks.

as mining and quarrying (8%), construction (10%) and manufacturing (12%), reported such incidents less often.

Since psychosocial risks are in many ways distinct from physical risks (e.g. social stigma and lack of awareness and understanding), the survey explored if educational establishments find addressing psychosocial risks more or less difficult compared to other risks. Their answers suggest that across the EU-27, 32% of educational establishments find addressing psychosocial risks more difficult, which is higher than is the case in other sectors (average of 21%). It seems that especially establishments in the Nordic countries find addressing psychosocial risks more difficult (70% in Denmark, 51% in Sweden and 49% in Finland), though it is the reverse in Norway, where only 14% find it more difficult, similar to Romania (12%). Arguably, the prevalence of the perception that psychosocial risks are harder to address in some of the Nordic countries that have taken significant steps forward indicates that these countries are generally more aware of these risks, their complexity and regard addressing psychosocial risks as an integral part of the OSH management approach rather than something employees should take care of privately.

Figure 27: How easy or difficult it is for educational establishments to address psychosocial risks compared to other risks (% educational establishments by Member State for ESENER 2019 and 2014)[70]
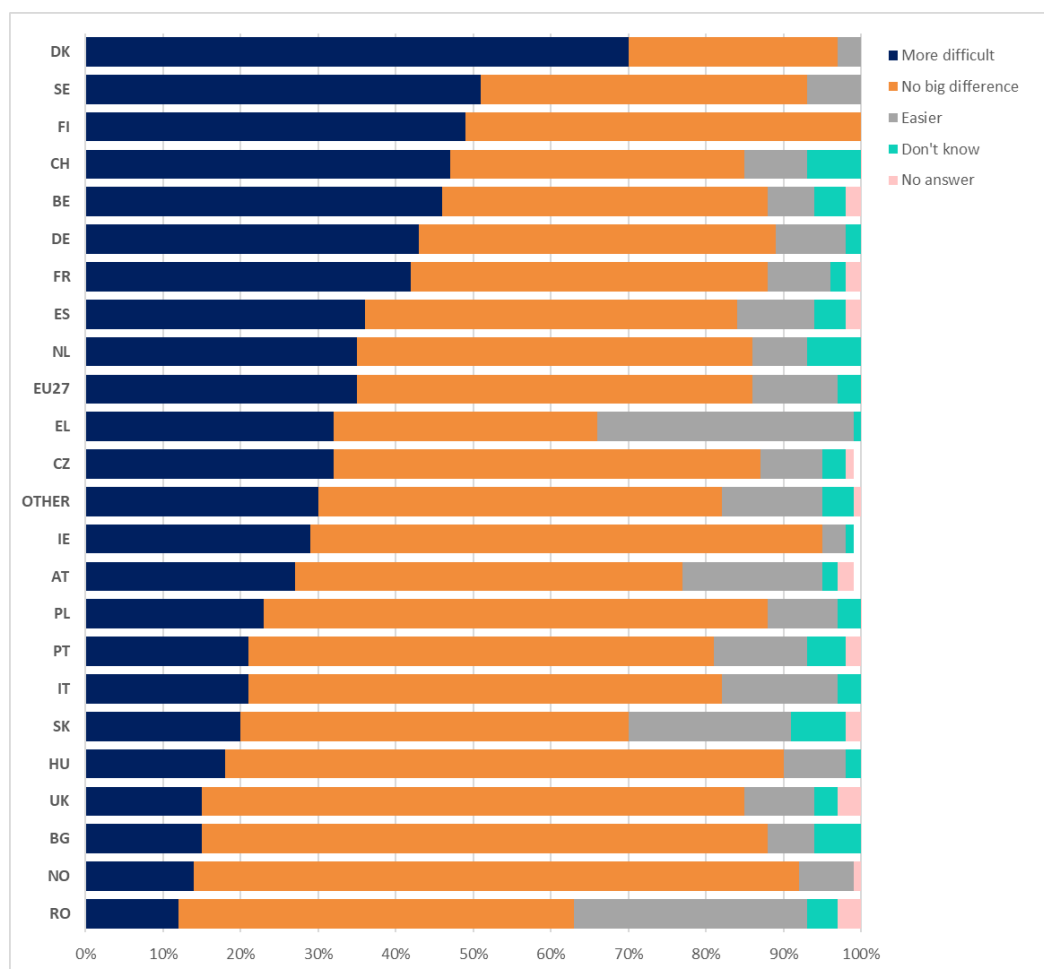
Considering that more than a third of respondents said psychosocial risks are more difficult to address than other types of risks, the survey explored if those establishments conducting regular risk assessments have sufficient information to include psychosocial risk factors. Across the EU-27, 63% of establishments in the education sector reported that they have enough information. Roughly, the education sector obtained a similar score to the 'average EU sector', although some sectors like human health and social work (71%) obtained even better results. What is interesting is that some of the national changes between 2014 and 2019 are relatively large. In Greece (82%) and Austria (81%), the share of educational establishments that reported to have sufficient information increased by 39 and 30

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[70] Base: All educational establishments that have implemented measures to prevent psychosocial risks.

percentage points, respectively. In contrast, in Belgium (58%) and Switzerland (54%) decreases of roughly 20% were noted. However, it is important to remember that these are subjective views and that when general awareness of psychosocial risks is low, respondents may still report that sufficient information is available even though that may not be the case objectively. In addition, the availability of online tools for the assessment of psychosocial risks may subjectively provide sufficient information, which however does not necessarily mean that the identified risks are addressed effectively.

Figure 28: Establishments that have sufficient information to include psychosocial risks in risk assessments (% educational establishments by Member State for ESENER 2019 and 2014)[71]
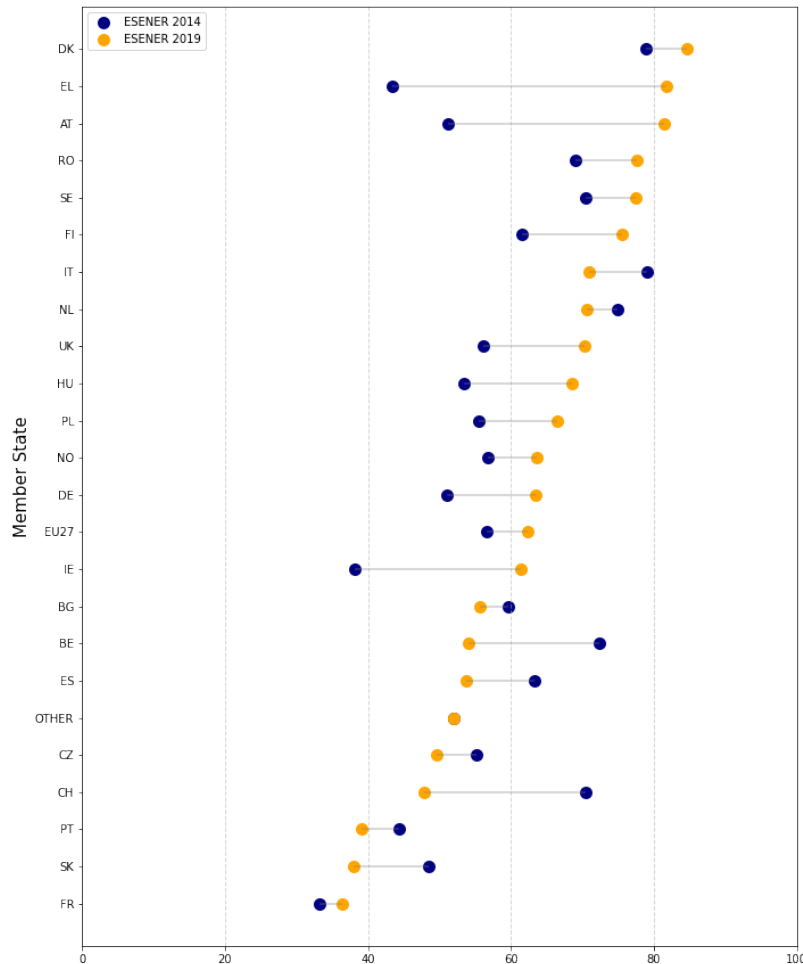
In 2019, on average across the EU-27, 62% of educational establishments let employees play a role in the design and set-up of measures to address psychosocial risks, showing a slight increase in this process since 2014. Compared to the average across sectors (55%), this is a relatively high score, and the education sector was a strong performer on this measure, especially when compared to other sectors such as financial and insurance activities (49%).

Yet, considering that psychosocial risks, especially in the form of working with difficult pupils, are prevalent in educational establishments, especially at primary and secondary levels, and that teachers should ideally be consulted in the management of these risks, the sector would be better supported in its OSH management activities if such information were made more widely available.

One possible reason for the comparatively limited involvement could be that employees' involvement is strongly driven by national legislation and that sector dynamics may be less important in this case, as per the findings of a recent EU-OSHA study on the management of psychosocial risks[72]. For instance, in Denmark, employee involvement is legally mandated and institutionalised through national legislation

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[71] Base: All educational establishments that conduct regular risk assessments.
[72] EU OSHA (2022) Managing psychosocial risks in European micro and small enterprises: Qualitative evidence from the Third European Survey of Enterprises on New and Emerging Risks (ESENER 2019). Country reports on Denmark and Poland.

across sectors, which is not the case in Poland. In Poland, not all companies carry out workplace risk assessments, and there are no formal channels for identifying psychosocial risks. Similarly, in some countries, employee size thresholds determine the instances where OSH representatives/committees should be appointed. As such, the opportunities for the involvement of employees in the development of measures are likely to be more limited in smaller establishments that fall under the size thresholds.

Figure 29: Establishments where employees have played a role in the design and set-up of measures to address psychosocial risks (% educational establishments for ESENER 2019 and 2014)[73]
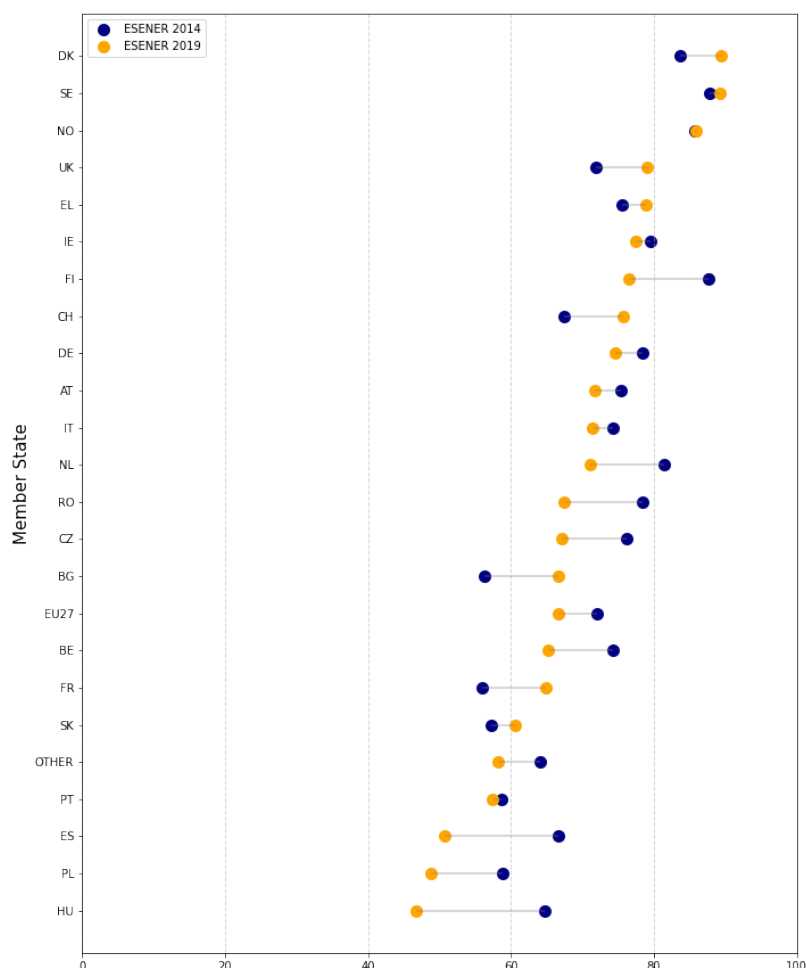
6.4 Psychosocial risk management (composite indicator)

A composite indicator was developed to ease communication of the performance of the education sector in terms of psychosocial risk management on several measures.[74, 75] Generally, compared to other national sectors, the education sector performs moderately well in terms of managing psychosocial risks (see Figure 30).

The green country cluster (Denmark, Finland, the Netherlands, Sweden and the United Kingdom) stands out with particularly good psychosocial risk management practices in the education sector both compared to other countries and other national sectors. The blue country cluster, including Greece, Spain, France, Hungary and Portugal, ranks relatively low on both levels. Overall, psychosocial risk management seems to converge regionally to some extent: the Scandinavian countries (except Norway)

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[73] Base: All educational establishments where measures to prevent psychosocial risks were taken.
[74] See the Annex for more details on the methodology.
[75] The measures used to form the composited measure included:
1. Does your establishment have an action plan to prevent work-related stress?
2. Is there a procedure in place to deal with possible cases of bullying or harassment?
3. And is there a procedure to deal with possible cases of threats, abuse or assaults by clients, patients, pupils or other external persons?
4. Did the employees have a role in the design and set-up of measures to address psychosocial risks?
5. Do you have sufficient information on how to include psychosocial risks in risk assessments?

are in the first green cluster and eastern European countries (except Hungary) are part of the third purple cluster.

Figure 30: Psychosocial risk management
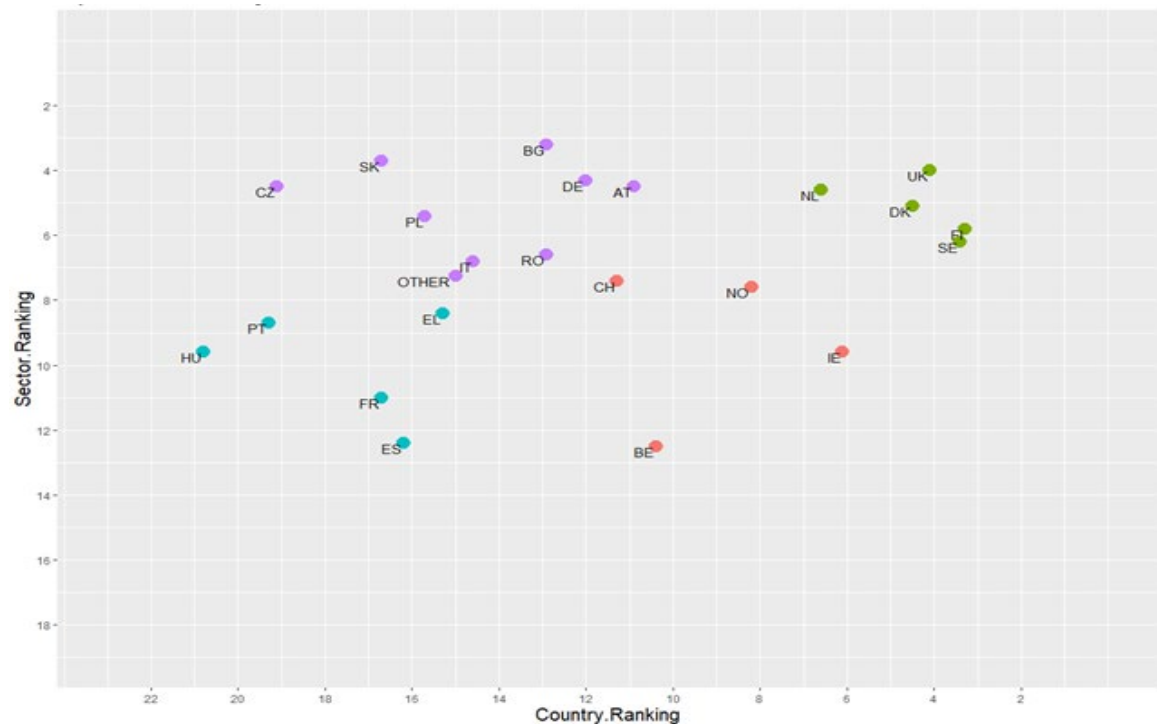
6.5 Digitalisation risks

Under ESENER 2019, additional questions were included on the impact of digitalisation and new technologies vis-à-vis OSH management.

As expected, use of digital technologies is relatively high in the education sector. Across educational establishments in the EU-27, the use of 'personal computers at fixed workplaces' (88%) and 'laptops, tablets, smartphones or other mobile computer devices' (83%) scored highest in terms of attention received in OSH management, however the use of the former ranges from 71% in Sweden to 98% in Hungary and the latter from 71% in Italy to 100% in Finland.

This implies that while the use of digital technologies in educational establishments across the EU-27 is relatively widespread, there are still organisations that are unfamiliar with the use of digital tools. In addition, what the results do not tell us is the differences in establishments' digital maturity. For example, it is to be expected that some countries will show substantial differences between rural and urban institutions not only in terms of the extent to which tools are used but also regarding the quality of these tools, and also in the competency of teachers in using these tools. These factors become relevant for OSH, for example in the context of employees' data protection and sense of safety when handling sensitive data, and in terms of the ability to successfully implement online teaching activities.

Figure 31: Used digital technologies (% educational establishments by establishment size for ESENER 2019)[76]
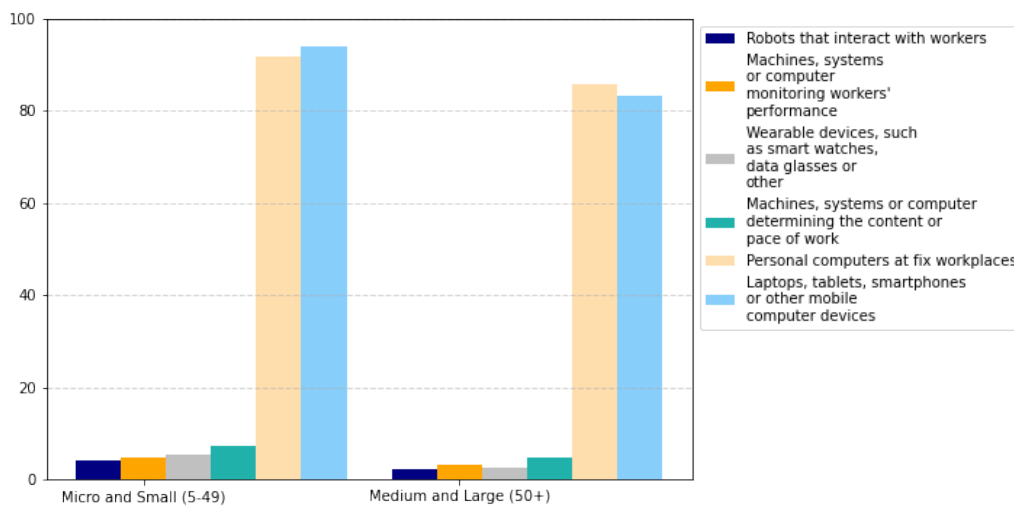
Considering that the use of digital technologies is widespread in the education sector, the survey explored the extent to which possible impacts on employees' health and safety are discussed. Overall, it seems that in the EU-27 this is not the norm as only 26% of establishments reported such discussions, with a slightly higher rate (33%) among educational establishments. In some countries this number was higher however, such as in Hungary (66%) and the United Kingdom (59%), but lower in Italy (22%) and France (15%).

Feedback from EU social partners noted that there is growing concern of the risks associated with the use of digital technologies in teaching. A key challenge is the management of classrooms that may be completely virtual, or may be held partly online with some classroom attendees also participating. It was mentioned that virtual teaching is more demanding considering that it is more difficult to control the attention of pupils, especially when they can 'appear' as engaged in the lessons online. The ongoing risk may be that pupil performance suffers, which can strain teacher–parent relations. The technologies used may also increase administrative tasks, require demonstration of compliance with data protection procedures, and demand developing new skills in using the tools and in learning how to ensure that classes are conducted successfully. It was also suggested that pupils need to be trained in how to learn online and become more independent. In addition, some educational establishments and countries were lacking digital equipment during the COVID-19 pandemic, which added to the problems of ensuring good continuity of education provision. These points were echoed in a recent report published by the EU social partners.[77]

A further concern is the emergence of new AI-based systems that have the potential to become relatively significant in the education sector. Such systems can provide tailored education solutions to pupils with the aim of strengthening their educational progress. As noted in EU-OSHA's report 'Advanced robotics, artificial intelligence and the automation of tasks: definitions, uses, policies and strategies and occupational safety and health' (EU-OSHA, 2022), while such systems have the possibility to improve student learning, there are some privacy concerns considering that such tools need to collect data on students, and in some cases teachers as well, so that students are provided with specific tasks aimed at their exact level of learning.[78] While these systems are not widespread currently, their possible OSH-related impacts should undergo risk assessment along with other digital technologies.

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[76] Base: All educational establishments.
[77] Available at: e-Speed_Research_Report.pdf (csee-etuce.org)
[78] Available at: https://osha.europa.eu/sites/default/files/2022-04/Advanced%20robotics_AI_based%20systems.pdf

Figure 32: Establishments where the possible OSH impacts of the use of digital technologies have been discussed (% educational establishments by Member State for ESENER 2019)[79]
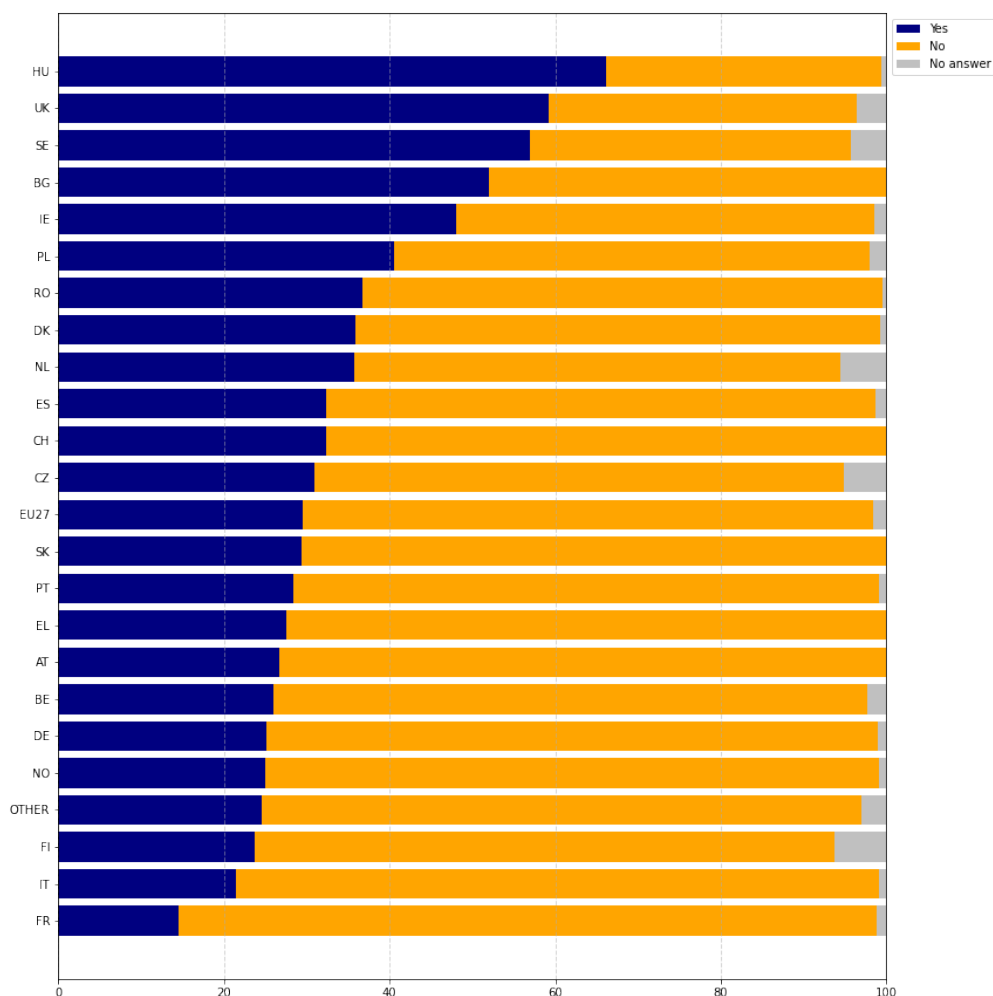
Those establishments where respondents reported discussions regarding the impact of technologies on OSH were further asked which possible impacts were discussed specifically. The EU-27 average for the education sector indicated that the possible impacts that were discussed included the 'need for continuous training to keep skills updated' (79%), 'prolonged sitting' (61%), 'information overload' (59%), 'increased work intensity or time pressure' (55%), 'more flexibility for employees in terms of place of work and working time' (50%), 'blurring boundaries between work and private life' (47%), 'repetitive movements' (46%) and 'fear of job loss' (20%). In Finland and Romania, a high share of respondents reported to have discussed all possible impacts, while in Belgium and France some risks were only discussed by half of the respondents.

Reflecting on this, it is interesting to note that even where the impacts of technologies have been discussed, there are sizeable groups that have not discussed some of the impacts, showing that there are blind spots even in some companies that are 'more aware' of the risks, for example, only 55% discussed the issue of increased work intensity or time pressure and 47% blurring of boundaries between work and private life, even though these would seemingly affect all educational establishments that use modern technologies to some degree.

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[79] Base: All educational establishments that use at least one digital technology.

Figure 33: The impacts that have been discussed (% educational establishments by establishment size for ESENER 2019)[80]

Legend:
- Fear of job loss
- More flexibility for employees in terms of place of work and working time
- Repetitive movements
- Blurring boundaries between work and private life
- Increased work intensity or time pressure
- Information overload
- Prolonged sitting
- Need for continuous training to keep skills updated
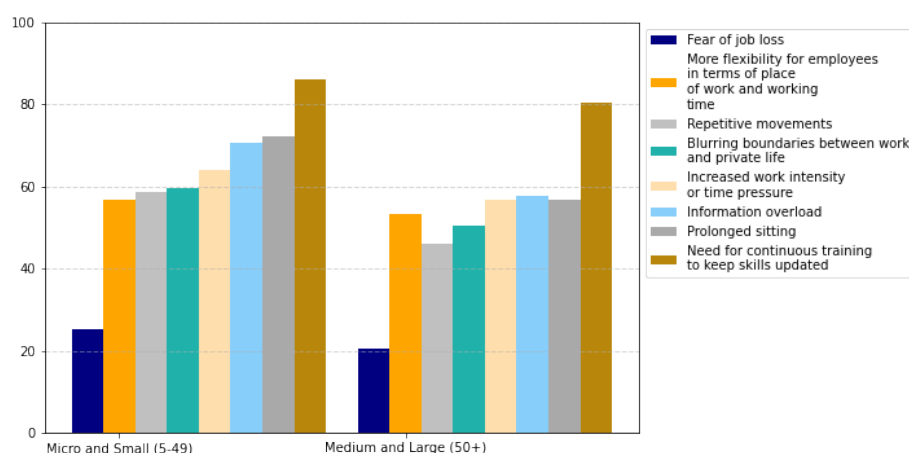
6.6 Multivariate analysis of ESENER results

Regression analyses were conducted with the objective of assessing the probability of implementing OSH management activities to address psychosocial and digitalisation risks depending on OSH-related and contextual factors. The former refers to whether establishments had adopted good OSH building blocks that would likely help in introducing other OSH management practices, and the latter relates to key contexts that impact the approach to OSH management, such as the size of the establishment, sector and country.

Using ESENER 2019 data, we considered the assessment of factors associated with the reporting of psychosocial risks, the use of measures to address psychosocial risks and the reasons that make addressing psychosocial risks difficult in the establishment.

6.6.1 Presence of psychosocial risks

Respondents to ESENER 2019 were asked to identify the presence of five psychosocial risks, namely:

- time pressure;
- poor communication or cooperation;
- job insecurity;
- having to deal with difficult customers/students; and
- long or irregular working hours.

Using this data, we conducted several regression analyses to assess the probability of their presence in establishments separately for each risk (five separate regressions were carried out). Nevertheless, the assessment below provides a summary of the results for all risks, pointing to differences related to specific risks where they exist.

In all models, eight OSH factors were included: the five OSH measures used in the establishment, plus 'a document in place that explains responsibilities or procedures on health and safety', 'regular discussion of health and safety at the top management level', and the 'presence of a health and safety representative'.

Education
When analysing the effect of OSH factors alone (not including the contextual factors), most of the OSH factors are significantly associated with the reported presence of psychosocial risks. However, when accounting for the context the establishments are operating in (country, their size), only few factors are important. This may suggest that the context (country, and company's size) has a stronger influence on the 'existence' of psychosocial risks than OSH factors.

The use of an occupational health doctor is positively correlated with the presence of four out of five analysed psychosocial risks: 'time pressure', 'poor communication or cooperation', 'difficult customers',

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[80] Base: All educational establishments that use at least one digital technology and where impacts have been discussed.

and 'long or irregular working hours'. This means that, in every context, the establishments using an occupational health doctor have a higher probability to report those four risks. It does not mean though that this relationship is causal: the presence of risks may trigger the use of an occupational health doctor, or the presence of an occupational health doctor may help to identify those risks.

The next important factor is the use of a psychologist, which is positively correlated with the reporting of job insecurity and difficult customers/students (but not other risks). Availability of such services to employees helps to identify demands related to relationships with students and fellow teachers, but also demands related to the insecurity of employment contracts.

Experts dealing with ergonomic design are positively related to the reporting of time pressure. This result might be unexpected, but it should be remembered that standing or sitting for long periods are key risks in the education sector, and as mentioned in the literature review section, education sector employees are more prone to MSDs than other workers. Thus, time pressure coincides with static body positions for longer periods, and may result in MSDs, which are reported by ergonomics designers.

Next, the factor of discussions on OSH management is positively related to long or irregular working hours, which means that the discussions among top management reveal problems with working hours. Interestingly, it was difficult to identify factors that reduce psychosocial risks. Out of all examined risks, no factor was found to decrease the probability of the following risks: time pressure, job insecurity and difficult customers. In case of poor communication or cooperation, the presence of an expert for accident prevention decreases the probability of this risk. Finally, to reduce the effects of long or irregular working hours resulting in MSDs, it may be helpful to use an expert dealing with ergonomic design, and to have a document in place that explains responsibilities or procedures on OSH (as both factors decrease the probability of reporting long or irregular working hours).

Interestingly, the presence of an OSH representative is not significant for the reporting of psychosocial risks in the establishment. This may suggest that this form of employee representation is not enough, and when other, specialised OSH services are available to employees, such as an occupational health doctor or psychologist, they are more effective in identifying the risks. On the other hand, the results suggested that psychologists are not very effective in identifying risks related to demands or related to supervisor–employee relationships (time pressure, poor communication), and in such cases an occupational health doctor seemed better placed to identify these risks.

Summarising, we have found that some factors — especially involvement of an occupational health doctor and psychologist — can be helpful in the identification of psychosocial risks, but there is no single factor able to address all risk factors. Additionally, the decrease in the number of significant psychosocial risks between model 1 (including only OSH factors as predictors) and model 2 (including OSH factors and the context) means that only a few OSH factors are correlated with the reporting of psychosocial risks. The context, especially country (since there is huge difference in probabilities between countries), plays a crucial role in identifying and reporting psychosocial risks.

Table 4: Probability of the presence of a psychosocial risk in the establishment (in %) after accounting for contextual variables[81]

	Time pressure	Poor communication or cooperation	Job insecurity	Difficult customers/ pupils	Long or irregular working hours
Q151.1. Used OSH services: occupational health doctor	+18	+24	n.s.	+26	+25
Q151.2. Used OSH services: psychologist	n.s.*	n.s.	+20	+31	n.s.
Q151.3. Used OSH services: expert dealing with ergonomic design	+23	n.s.	n.s.	-22	-11
Q151.4. Used OSH services: generalist on health and safety	n.s.	n.s.	n.s.	n.s.	n.s.
Q151.5. Used OSH services: expert for accident prevention	n.s.	-16	n.s.	n.s.	n.s.
Q155. Document in place that explains responsibilities or procedures on health and safety?	n.s.	n.s.	n.s.	n.s.	-40

[81] The values indicated are normalised percentage scores — for example, use of a psychologist helps educational establishments to identify the risk of difficult pupils and parents in establishments by 31%.

	Time pressure	Poor communication or cooperation	Job insecurity	Difficult customers/ pupils	Long or irregular working hours
Q162. Health and safety regularly discussed at the top management level	n.s.	n.s.	n.s.	n.s.	+19
Q350.4. Health and safety representative	n.s.	n.s.	n.s.	n.s.	n.s.

* n.s. = not significant; pink colour = probability increases; green colour = probability decreases

All economic activities

When compared to the education sector, the situation is different for each psychosocial risk. In case of 'time pressure', 'poor communication or cooperation', and 'long or irregular working hours', the majority of other sectors have a higher probability for reporting the presence of these risks. This means those three types of risks are rarely reported in educational enterprises. On the other hand, none (or only one) of the activities has a higher probability for reporting the presence of job insecurity and having to deal with difficult customers/students than the education sector. This means that educational enterprises face job insecurity and difficult customers (students in that case) significantly more than other sectors.

Figure 34: Probability (odds ratio) of the presence of psychosocial risks in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)

6.6.2 The use of various measures for psychosocial risks

Education

In the assessment of predictors for the use of various measures for psychosocial risks, 10 OSH factors were used. In this case, most of the predictors used maintained their significance from model 1 (only OSH factors) to model 2 (OSH + contextual factors). This shows that they are rather universal and can support implementation of measures in all contexts. The second important finding is that our analysis helped to identify factors that are positively associated with the application of each measure, while no factor associated negatively was identified.

There are two key universal factors that are positively correlated with all five measures for psychosocial risks: 'reorganisation of work', 'confidential counselling for employees', 'training on conflict resolution', 'intervention if excessively long or irregular hours are worked', and 'allowing employees to take more decisions'. These two factors are: 'a plan to prevent work related stress', and 'meeting expectations from employees as a reason for addressing health and safety'.

Another factor — 'supervisor–employee relationships that are routinely evaluated in risks' — is positively associated with the adoption of four of the measures managing psychosocial risks (excluding 'allowing employees to take more decisions').

Three other factors — 'organisational aspects routinely evaluated in risk assessment', 'health and safety representative', and 'procedures to deal with possible cases of threats, abuse or assault' — are significant in case of three measures (yet, not for the same measures — see Table 5).

Our findings underline the importance of including employees in the application of measures for psychosocial risks, but they also point to a one-for-all solution, which is a plan to prevent work-related stress (significant for all measures — see Table 5). Other factors may encourage the adoption of some of the measures, but the development of specific plans to address stress seems to support thinking on how to manage psychosocial risks and therefore leads to the adoption of a wide selection of measures.

Table 5: Probability of applying the measure for psychosocial risks in the establishment (in %) after accounting for contextual variables[82]

	Re-organisation of work	Confidential counselling for employees	Training on conflict resolution	Intervention if excessively long or irregular hours are worked	Allowing employees to take more decisions on how to do their job
Q252.5. Routinely evaluated in risk assessment: supervisor–employee relationships	+31	+68	+53	+21	n.s.
Q252.6. Routinely evaluated in risk assessment: organisational aspects	+49	n.s.	n.s.	+40	+33
Q162. Health and safety regularly discussed at the top management level	n.s.*	+27	n.s.	n.s.	n.s.
Q300. Plan to prevent work-related stress	+34	+53	+50	+52	+31
Q301. Procedure in place to deal with possible cases of bullying or harassment	n.s.	n.s.	n.s.	n.s.	n.s.
Q302. Procedure to deal with possible cases of threats, abuse or assaults	n.s.	+42	+72	n.s.	+31

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[82] The values indicated are normalised percentage scores — for example, appointment of an OSH representative helps educational establishments to introduce measures to reorganise work when needed by 46%.

	Re-organisation of work	Confidential counselling for employees	Training on conflict resolution	Intervention if excessively long or irregular hours are worked	Allowing employees to take more decisions on how to do their job
Q163. Team leaders and line managers receive training on how to manage health and safety	n.s.	n.s.	n.s.	n.s.	n.s.
Q350.4. Health and safety representative	+46	+25	+18	n.s.	n.s.
Q262.1. Reasons for addressing health and safety: fulfilling legal obligations	n.s.	n.s.	n.s.	n.s.	n.s.
Q262.2. Reasons for addressing health and safety: meeting expectations from employees	+97	+44	+23	+30	+77

* n.s.: not significant (grey colour); pink colour = probability increases

All sectors

In the case of two measures — 'reorganisation of work', and 'intervention if excessively long or irregular working hours are worked' — most or all sectors have a higher probability to report these measures than the education sector. This means that both are reported less often in the education sector, and educational establishments do not reorganise work, and do not plan intervention for excessive workload compared to other sectors.

However, for the cases of 'training on conflict resolution' and 'allowing employees to take more decisions on how to do their job', most of the other sectors report these measures less frequently. This means that educational enterprises provide employees with opportunities to take more decisions on how to do their job and provide training on conflict resolution as measures to prevent psychosocial risk.

In the case of 'confidential counselling', the education sector is rather average, as some sectors have a higher while others a lower probability to apply this measure.

Figure 35: Probability (odds ratio) of applying measures for psychosocial risks in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)
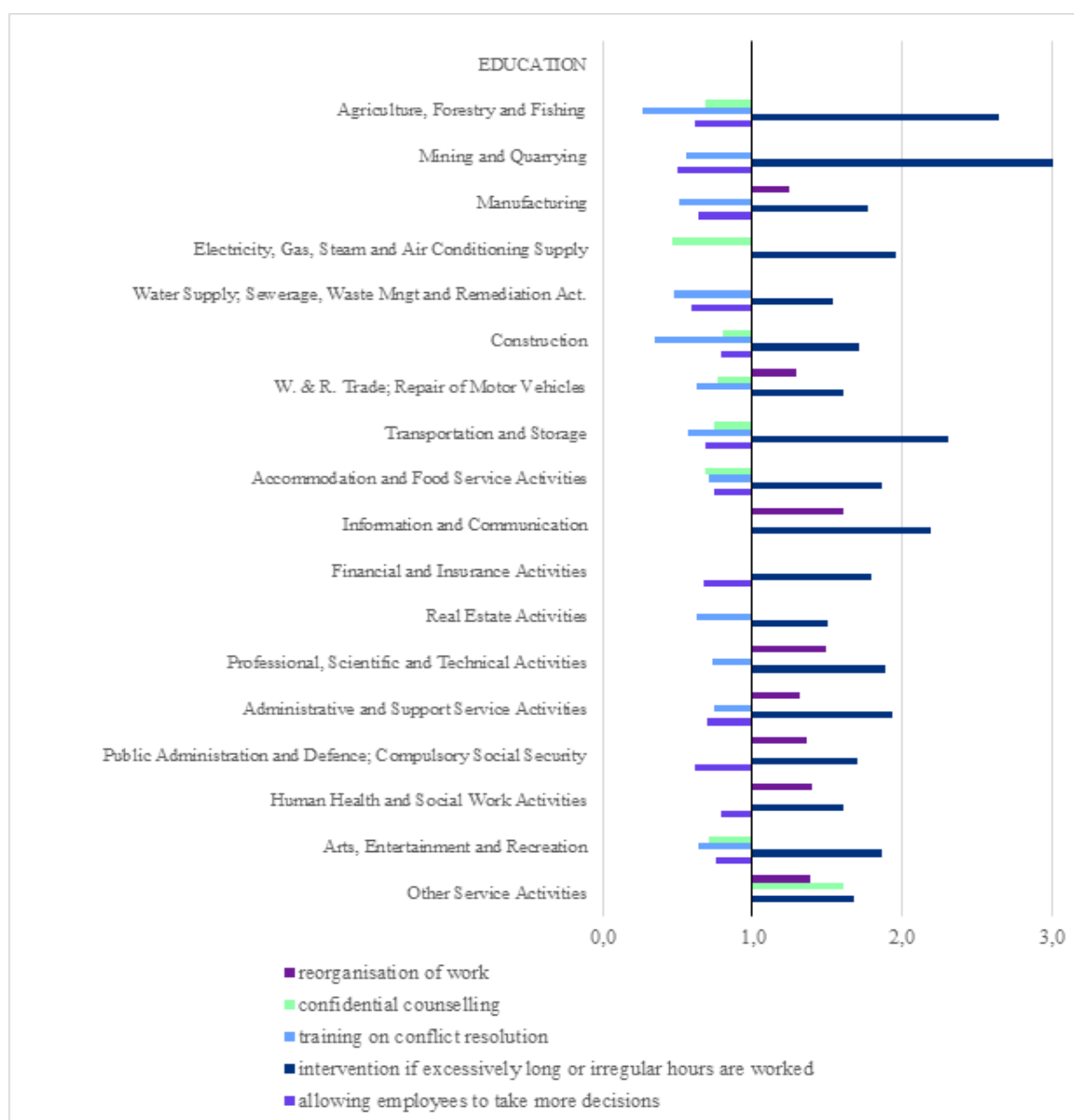
6.6.3 Reasons making psychosocial risks difficult to manage

Education

In the assessment of predictors making addressing psychosocial risks difficult, 10 OSH factors were tested (Table 6). They have very limited influence on identification of reasons making addressing psychosocial risks difficult. This means that there are other factors — mainly contextual (size, sector, country), but also factors not studied in this survey — that shape the perception held by some that psychosocial risks are difficult to manage.

Two significant factors are associated with more than one reason: 'confidential counselling', and 'training on conflict resolution' as measures used for psychosocial risks. Both measures are negatively correlated with indicating lack of awareness among management. Additionally, 'confidential counselling' is negatively associated with reporting lack of expertise or specialist support, and 'training on conflict resolution' with reporting reluctance to talk openly.

The two next important factors influence one reason only (and are not significant for other factors). 'Allowing employees to take more decisions on how to do their job' is negatively correlated with reporting

lack of awareness among management. Another factor is the number of OSH services used — if this number is higher, the probability of lack of expertise or specialist support is increasing.

In summary, higher health and safety awareness among management is related to 'confidential counselling', 'training on conflict resolution', and 'allowing employees to take more decisions on how to do their job'; specialised OSH knowledge is related to confidential counselling, and higher number of OSH services used; and open discussion on health and safety is supported by 'training on conflict resolution'.

One interesting relationship has been found, that is, fulfilling legal obligations as a reason for addressing OSH is positively associated with reporting lack of awareness among staff. This suggests that when an education establishment is addressing OSH in order to fulfil legal obligations (and probably neglecting other reasons), it may result in lack of awareness among staff, which — as a consequence — could produce difficulties in addressing OSH.

Considering the results available via ESENER, this relationship can be tested using a representative dataset and therefore provides good evidence in its own right. Therefore, it should be mentioned that this finding is important as it shows that staff awareness in the education sector is necessary when managing OSH, and legal obligations cannot be the only motive to address OSH — other aspirations are needed.

Other research has produced similar results but the results are mostly qualitative or use small samples, or are related to OSH awareness for specific occupations. For example, a study carried out at a local hospital showed that by increasing the organisation's OSH awareness, safer healthcare services were introduced.[83] Another study, comparing OSH management in Spain and Sweden, reported that the accidents rate was lower in Sweden. The motivations of establishments were a key reason given for the differences. The main reason for the implementation of an OHS management system in Spanish establishments is enforcement of law, whereas in Sweden the focus is on responding to employee needs and retaining staff.[84]

Table 6: Probability of the perceived reasons that make addressing psychosocial risks difficult (in %) after accounting for contextual variables

	Lack of awareness among staff	Lack of awareness among management	Lack of expertise or specialist support	Reluctance to talk openly
Q151. OSH services used (0-5)	n.s.*	n.s.	-17	n.s.
Q250. Regular completion of risk assessment	n.s.	n.s.	n.s.	n.s.
Q300. Plan to prevent work-related stress	n.s.	n.s.	n.s.	n.s.
Q304.1. Used measures for psychosocial risks: reorganisation of work	n.s.	n.s.	n.s.	n.s.
Q304.2. Used measures for psychosocial risks: confidential counselling	n.s.	-36	-43	n.s.
Q304.3. Used measures for psychosocial risks: training on conflict resolution	n.s.	-51	n.s.	-24
Q304.4. Used measures for psychosocial risks: intervention if excessively long hours are worked	n.s.	n.s.	n.s.	n.s.

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[83] Momani, A., Hirzallah, M., & Mumani, A. (2017). Improving employees' safety awareness in healthcare organizations using the DMAIC quality improvement approach. *Journal for Healthcare Quality, 39*(1), 54–63. https://doi.org/10.1097/jhq.0000000000000049
[84] Morillas, R. M., Rubio-Romero, J. C., & Fuertes, A. (2013). A comparative analysis of occupational health and safety risk prevention practices in Sweden and Spain. *Journal of Safety Research, 47*, 57–65. https://doi.org/10.1016/j.jsr.2013.08.005

Q304.5. Used measures for psychosocial risks: allowing employees to take more decisions on how to do their job	n.s.	-43	n.s.	n.s.
Q262.1. Reasons for addressing health and safety: fulfilling legal obligations	+54	n.s.	n.s.	n.s.
Q262.2. Reasons for addressing health and safety: meeting expectations from employees	n.s.	n.s.	n.s.	n.s.

* n.s.: not significant (grey colour); pink colour = probability increases; green colour = probability decreases

All

The comparison of the education sector to other sectors revealed an important division in the perception that addressing psychosocial risks is more difficult that other risks. For two of the factors — 'lack of awareness among staff', and 'lack of awareness among management' — educational establishments exhibited very low probability of indicating those as reasons. However, in the cases of 'lack of expertise or specialist support' and 'reluctance to talk openly', educational establishments are among those with the highest probability.

For 'lack of awareness among staff', the sectors associated with a higher probability than education included: manufacturing, water supply; sewerage, waste management and remediation activities, construction, public administration and defence; compulsory social security, and lower probability in information and communication.

In terms of 'lack of awareness among management', the sectors with a higher probability than education included: water supply; sewerage, waste management and remediation activities, financial and insurance activities, professional, scientific and technical activities, public administration and defence; compulsory social security, and lower probability in accommodation and food service activities.

In the case of both 'lack of expertise or specialist support' and 'reluctance to talk openly', none of the sectors were associated with a higher probability than the education sector, and most of the activities have a lower probability.

These findings suggest that in the education sector, lack of awareness among staff and management might be a barrier in addressing psychosocial risks, whereas lack of expertise or reluctance to talk openly is not an issue. Educational establishments should therefore invest in improving the awareness of health and safety issues among all employees.

Figure 36: Probability (odds ratio) of reasons making addressing psychosocial risks difficult in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)

6.6.4 Impact of digitalisation risks on OSH

Out of 10 OSH factors included in the model, eight have a significant positive association with discussing possible impacts of digital technology on health and safety. All of the significant predictors have a positive influence, that is, they are correlated with a higher chance of discussing possible impacts of digital technologies. They are: 1) used digital technology: personal computer at fixed workplaces; 2) laptops, tablets or other mobile computer devices; 3) machines, systems and so on determining the content or pace of the work; 4) machines, systems and so on monitoring workers' performance; 5) wearable devices, such as smart watches, or other sensors; 6) health and safety regularly discussed at top management level; 7) regular completion of risk assessment; and 8) the presence of a health and safety representative.

After accounting for contextual factors (country, sector, size) the majority of OSH factors remained statistically significant. The only exception is the presence of a health and safety representative, which became insignificant when we added the context variables (size of establishment and country) to the analysis. The strongest factor is 'used digital technology: wearable devices, such as smart watches, or

other sensors', increasing the odds of discussing possible impacts of digital technology by 151%. Other factors exhibit much lower odds (between 30% and 65%), with the lowest odds for the factor 'employees working from home' (increases the odds by 13%).

When compared to the education sector, all of the other sectors have a lower probability of discussing the possible impacts of digital technology, that is, the establishments from the education sector discuss such impacts most often (see Figure 37). While the results presented earlier in this chapter showed that most establishments in the education sector do not report digital impacts often, the regression analysis showed that there is a higher likelihood of educational establishments doing so. It corresponds with the descriptive results, showing that educational establishments report such discussion more often than all other establishments.

Figure 37: Probability (odds ratio) of discussing possible impacts of digital technology in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)

7 Drivers and barriers to OSH risk management in the education sector

7.1 Introduction

Establishments' efforts to provide health and safety measures and their motivation to continuously reassess and improve these efforts may be driven by different drivers, or conversely, hindered by organisational gaps or other barriers.

To measure these dynamics, ESENER collected evidence using several questions on the possible drivers and barriers to complying with OSH requirements. As we have seen from the results of the composite indicators, the education sector performs better on average than other sectors in terms of psychosocial risk management but could do better considering the performance of other sectors regarding OSH commitment. This chapter complements these previous findings by shedding light on some of the factors that may be driving the introduction of OSH management practices or act as a barrier to them.

An overview of the results from the ESENER 2019 and 2014 surveys is presented as follows:

- To begin, a summary of the results is introduced.
- The results on the main barriers and drivers are presented.
- Next, the specific barriers concerning psychosocial risk management are highlighted.
- Finally, the results from the regression analyses using this information are examined.

7.2 Summary of ESENER 2019 findings

The results suggested that the drivers for OSH management for most (70% to 90%) of the establishments in the education sector were to fulfil legal obligations, meet expectations from employees, maintain the organisation's reputation and avoid fines from the labour inspectorate.

Generally, compared to other sectors, the education sector ranks average across answer categories. The vast majority of educational establishments (89%) reported 'fulfilling legal obligations' as a main reason for addressing risks, similar to 81% of real estate establishments and 90% in construction and human health and social work activities, which shows that this is a main driver regardless of the sector.

In addition, 82% of educational establishments found 'meeting expectations from employees' to be a driver, which was the case in 73% of real estate organisations and 85% of establishments in the human health and social work activities. Also, 73% of educational establishments are motivated by maintaining the organisation's reputation as opposed to 66% in real estate and 86% in accommodation and food services. This makes sense as accommodation and food services is arguably the sector most reliant on reviews and reputation to attract new clients, as opposed to educational establishments that rely on their OSH-related reputation to a lesser degree.

Moreover, 69% of educational establishments mentioned that the main driver is 'avoiding fines from the labour inspectorate', compared to 64% in the public sector and 88% in mining and quarrying. Again, this reflects that the public sector is less likely to be inspected and thus avoiding fines is not necessarily one of the main drivers.

Furthermore, almost half of the establishments reported that the need to increase productivity motivated them to manage OSH.

Other motivations for addressing OSH included the organisational support that is made available to staff. Reflecting on the case study research, in Denmark, at primary level especially, OSH is organised through 'TRIO' groups made up of a leader, the OSH representative and the union representative. The TRIO either follow a defined meeting pattern or meet more informally, and discuss prevalent OSH related issues as well as the general wellbeing among teachers. The Irish case study showed that the employee counselling provided through a designated call line can help improve individual and organisational wellbeing by advising staff on how they can address their personal or workplace problems. Please see the Annex for more details on the country cases.

In terms of the barriers to OSH management, 35% to 45% of the establishments identified some of the key problems as 'complexity of legal obligations', 'lack of time or staff', 'paperwork' and 'lack of money'. Compared to other sectors, educational establishments perceived 'lack of money', 'lack of expertise or

specialist support', and 'lack of awareness among management' as less of a problem. In mining and quarrying, for example, 'lack of awareness among staff' was reported as a barrier in 25% of establishments compared to 16% in the education sector. The case study research, for example, in Denmark and Germany, showed that 'time pressure' is a significant barrier to managing OSH, with teachers considering that there are increasing demands on their time due to the complexity of curricula, administrative burdens and digitalisation, along with an upswing in their teaching responsibilities since the onset of the COVID-19 pandemic, especially for primary and secondary levels.

According to the ESENER 2019 results, the experience of 'complexity of legal obligations' as a barrier was to a large extent country-dependent, for example, in Germany this barrier is felt more strongly. Similarly, drawing from the Italian case study, the perceived excessive bureaucratisation of the educational system constitutes a barrier in ensuring that enough time is available for addressing and managing OSH.

Based on the findings of the Irish case study, a key barrier mentioned was the lack of emphasis by management in establishing the necessary communication channels to ensure ongoing engagement with OSH representatives. A further point raised was that while OSH training courses have been made available to teaching staff, their uptake has been somewhat slow to date due to conflicting demands rather than a lack of willingness.

With specific regard to psychosocial risks, the results showed that about half of the educational establishments experienced obstacles dealing with psychosocial risks, such as 'reluctance to talk openly about the issue' and 'lack of expertise or specialist support', and about a third experienced obstacles such as 'lack of awareness among staff' and 'lack of awareness among management'. In comparison to other sectors, education ranks about average or slightly below in highlighting the significance of these obstacles.

Moreover, the case study research revealed some further problems in terms of the barriers in managing psychosocial risks. The Italian and Irish cases showed that there is sometimes a fear of challenging the behaviour of some pupils considering the aggressive attitude of some parents. However, the Danish case showed that management of psychosocial risks does not sometimes address the underlying problems, and that procedures may be available but are not used as they are not considered as appropriate or effective, for example, seriously misbehaving children may not benefit from being excluded from school.

The results of regression analyses produced some interesting findings on how the barriers to OSH management may be reduced in the education sector, for example, by engaging with external bodies and appointing key OSH management representatives. As expected, while statistical models do not provide concrete evidence of causal relations, it is likely that the presence of an OSH representative and visits by the labour inspectorate help reduce the perception that OSH obligations are too complex to deal with. In terms of the motivating factor of fulfilling OSH duties due to legal obligations, it seems that receipt of advice from trade unions and the presence of an OSH representative are key in strengthening this perception. Worryingly, the analysis also showed that education sector establishments were more likely to indicate that OSH rules are complex when compared to most other sectors.

Policy pointer: In summary, the drivers for OSH management in the education sector were reported more frequently than barriers, but still measures can be taken to support positive motivations and help establishments to overcome any obstacles.

Motivations to manage OSH may be strengthened by stressing and demonstrating the benefits of better collaboration, cooperation and productivity. And, the barriers to compliance due to the perceived complexity of OSH laws can be reduced through visits made by the labour inspectorate and by appointing OSH representatives who can encourage their employer to establish effective OSH management systems.

The perception that OSH regulations are complex was expressed more often in the education sector compared to most other sectors. Clearly, this suggests that OSH representatives or persons responsible for OSH in the education sector need more support to overcome these obstacles.

7.3 Drivers of OSH management

The ESENER survey includes a question that offers insight into what motivates companies to proactively improve OSH management. Establishments were asked to rate the importance of several reasons for addressing OSH. Across the EU-27, 'fulfilling legal obligations' is clearly the main driver for OSH management in the education sector and ranks similarly high in both 2014 and 2019 (from 87% to 89%). In Norway and Sweden, 99% of companies reported this to be the main driver compared to 78% in Slovakia. The biggest increase between 2014 and 2019 is in responses from Danish educational establishments. In 2014, 65% of education organisations named legal obligations as a main driver, whereas in 2019 it was 75%. In Czechia, the proportion decreased by nine percentage points from 92% to 83% between 2014 and 2019. The sectoral variation on this item is relatively small. Water supply, sewerage, waste management and remediation activities scored highest (94%), compared to 81% of establishments in the real estate sector.

Compliance with the law was found as the main OSH management driver also by the country case studies. For instance, national regulations oblige employers in Italy to draw up regular risk assessments with the aim of identifying, analysing and evaluating potential risks to workers' health and safety. When drafting the risk assessment, employers usually rely on in-house experts who ideally should have some knowledge on workplace safety. Failure to comply with the regulation may result in significant penalties for the employer (i.e. fines of a maximum of €4,384). Also, French educational establishments rely on ad hoc committees made of employees' representatives, occupational physicians, labour inspectors and so on. However, the lower-than-EU-average share of establishments conducting regular workplace risk assessments can be partially explained by the fact that unlawful employers are subject to a fine of 'only' €1,500.

The ESENER 2019 findings suggest that the second strongest driver is to 'meet expectations from employees' (from 81% to 82%), which compared to other sectors is around the average score although it falls below the score of 85% attained in the human health and social work activities sector, although it is higher than real estate (73%). While the highest proportion of educational establishments reported this as a main driver in Norway (95%) compared to Czechia (57%), it was the education sector in Ireland that experienced the steepest increase of 23 percentage points between 2014 and 2019 (from 67% to 90%). One possible reason for this could be that in 2016 Irish teachers went on strike several times and the Association for Secondary Teachers (ASTI) had several negotiations with the Department of Education and Skills regarding pay disputes.[85] Thus, Irish educational establishments were frequently confronted with the negative impacts of strikes between 2014 and 2019, which may have led to organisations trying to accommodate employees' wishes more proactively.

At the country level, there are larger differences in terms of educational establishments' perception of organisational reputation as a main driver when compared to other drivers. In Bulgaria, 99% of educational establishments reported this as a main driver, compared to only 38% in France. At the sectoral level, although the education sector was 73%, slightly above the sectoral average, OSH management driven by reputation is less of a concern compared to some private sector industries that are more sensitive towards how OSH and services interact with each other, such as the accommodation and food sector. The EU social partners interviewed stressed that the education sector needs to strengthen its reputation as a positive sector to work in. While OSH is one factor among many, concerns were raised that the image of the sector and the challenges in dealing with difficult pupils have led to worries around staff recruitment and retention.

At EU-27 level, 68% of educational establishments reported 'avoiding fines from the labour inspectorate' as one of the main reasons for addressing health and safety, which marks a slight increase of three percentage points since 2014. This was, however, lower than other business sectors that are likely to be exposed to more inspections considering their safety risks, such as the accommodation and food sector (87%) and mining and quarrying (88%). In Bulgaria, educational establishments (96%) are highly driven by the motivation to avoid fines, while this is only the case in 33% of establishments in France.

Avoiding fines was also found to be a driver in the Italian case study, where interviewees from primary and secondary education levels emphasised how sometimes employers can overlook the wellbeing of

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[85] Brophy, D. (2016, November 29). *After late night talks, a possible breakthrough at the ASTI teacher dispute*. TheJournal.ie. https://www.thejournal.ie/asti-late-night-talks-3108181-Nov2016/

workers in favour of legal compliance. It was mentioned that the monitoring and penalty system is much more structured and proactive than the support and advice system.

'Increasing productivity' was only reported by 50% and 47% of educational establishments in the EU-27 in 2014 and 2019, respectively. Thus, productivity gains can be seen as the weakest driver among the items included. Other industries like the manufacturing sector perceive productivity gains as a more important driver in improving OSH (75%), whereas public administration organisations (44%) are less likely to do so — it thus seems to show that manufacturing industries will have a stronger focus on ensuring measurable improvement in productivity and profitability, and reducing accidents due to the inherent safety risks.

Figure 38: Reasons for addressing health and safety (% educational establishments for ESENER 2019)[86]
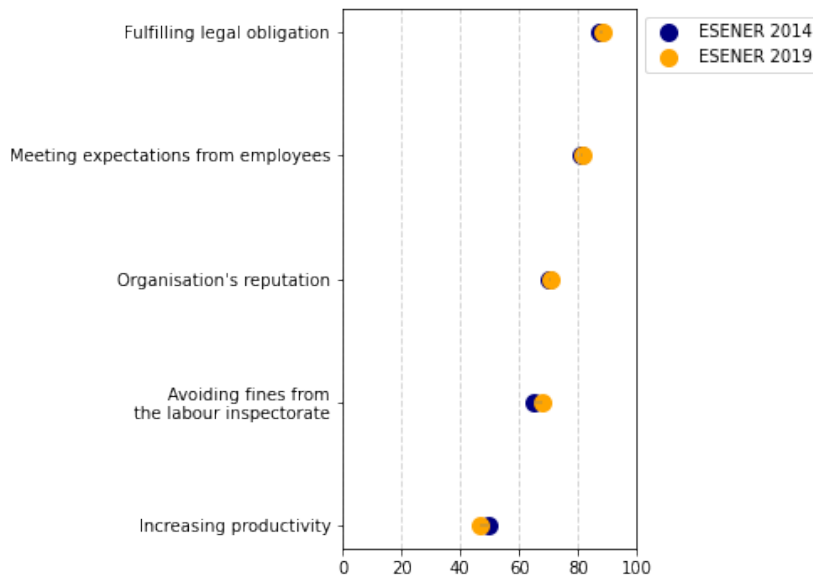
7.4 Barriers to OSH management

Conversely, the survey also explored the obstacles for establishments in addressing OSH risks effectively. The barriers that a proportion of educational establishments in the EU-27 identified as major difficulties are 'complexity of legal obligations' (46%), a 'lack of time or staff' (40%), 'paperwork' (38%), the 'lack of money' (37%), 'lack of expertise or specialist support' (21%), the 'lack of awareness among staff' (17%) and the 'lack of awareness among management' (15%). Since the 'complexity of legal obligations' is to a large extent country-dependent, it makes sense to look at these answers at country level. In the Netherlands (59%) and Germany (58%), the majority of establishments found that the legal system hinders them from addressing OSH effectively, compared to only 13% in both Denmark and the United Kingdom. Though the data does not make it clear why certain respondents experience the legal system as a barrier to OSH more often than others, earlier research has shown that the German system, for instance, is comparatively fragmented. This reflects the relatively decentralised system where both private and public institutions at several levels of governance (national, sub-national, local) play a role in OSH management. Interviews with employees and managers in Germany have revealed that from establishments' perspectives, this may easily cause confusion about their legal obligations. In Denmark, for example, the system is more centralised, and the establishments may thus find their legal obligations less complex to understand. In addition, the argument can be made that when legislation changes frequently, the perceived complexity increases as establishments must adapt and familiarise themselves with the new rules.

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[86] Base: All educational establishments.

Figure 39: Difficulties addressing health and safety risks in educational establishments[87]
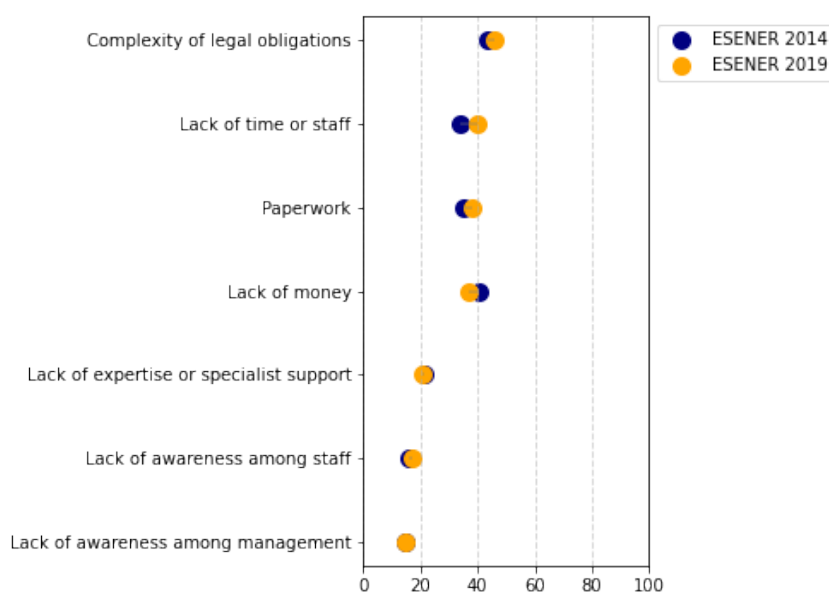
Some of the findings from the Italian and the French case studies on OSH in the education sector helped to interpret some of the results of the ESENER survey. The former case study highlighted how OSH management obligations were seen as too burdensome to implement proactively — for example, it was felt that the administrative obligations to report incidents were quite 'heavy' to deal with. Moreover, some managers responsible for risk assessments were considered as lacking the necessary training to conduct their duties robustly. Also, in some cases, steps to monitor staff–manager relations were seen as tick-box exercises rather than leading to substantive changes in the actual approach.

7.5 Barriers to psychosocial risk management

As the ESENER results have shown, psychosocial risks are in many ways distinct from other OSH risks and are often perceived as harder to address and prevent. Therefore, the survey explored the possible barriers to psychosocial risk management specifically.

Across the EU-27, the 'reluctance to talk openly about the issue' (53%), the 'lack of expertise or specialist support' (51%), the 'lack of awareness among staff' (32%) and the 'lack of awareness among management' (27%) are the main obstacles facing establishments around psychosocial risk management[88]. The results illustrated that establishments in different sectors experience certain barriers to varying degrees. For example, 80% of organisations in water supply, sewerage, waste management and remediation activities reported 'reluctance to talk openly about the issue' as a problem versus 51% in human health and social work activities. The extent to which people may be reluctant to talk openly about the issue could also be connected to the culture in a given country. Comparing responses at the country level shows that it is perceived as a main barrier by most respondents in Norway (88%) and Finland (83%) but less so in Hungary (45%) and Bulgaria (27%).

On this topic, the Italian case study reported also the existence of an economic barrier with regard to support for psychological risks. As argued by one interviewee, forms of psychological support (e.g. internal psychological services) are less common because they do not receive regular and significant funding during the school year. This barrier was also highlighted by French stakeholders who argued how the overall lack of financial and human resources translates to shortcomings of the occupational medicine system failing to do regular check-ups of school staff. In Denmark, in the secondary and higher education sectors it was felt that there is a higher degree of autonomy in the way educational professionals conduct their role than at the primary level. For this reason, it is harder to address psychosocial risks as personal relations may not be strong enough to discuss sensitive matters.

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[87] Base: All educational establishments, plotting response 'major difficulty'.

[88] Base: This question was only asked to those establishments perceiving psychosocial risks as more difficult to manage than other OSH risks.

7.5.1 Multivariate analysis of ESENER results

Regression analysis was undertaken in the area of barriers and reasons for addressing health and safety using ESENER data.

In this section we examine how OSH factors influence the perception of legal obligations in the area of health and safety, both as a barrier and as a driver. In two separate models, the analysis tested associations with the drivers and barriers, and in doing so four OSH factors were used as possible predictors: the 'presence of a health and safety representative', 'labour inspectorate visits', the 'use of external providers', and 'source of information in the area of health and safety', namely trade union and employers' organisations.

Education

In examining the probability of perceiving legal obligations as too complex, three OSH factors included in the model were significantly associated (after accounting for the context), with different direction, though. The use of external providers is correlated with <u>higher probability</u> of perceiving legal obligations as a complex matter. This might be self-explanatory as establishments hiring external providers assess their knowledge in the area of legal obligations as not adequate and perceive them as too complex. Two other factors — the 'presence of a health and safety representative' and 'labour inspectorate visit' — are negatively correlated with viewing legal obligations as complex, which supports the conclusion that employees' representation and regular visits by external authorities compel establishments to acquire more OSH knowledge. It has to be noted, however, that the effect of those three predictors is rather low in magnitude.

For the probability of fulfilling legal obligations as a reason for addressing health and safety, two OSH factors were found to have significant influence on the outcome variable, and both in a positive way. The 'presence of a health and safety representative' and 'using a trade union as a source of information' increase the chances by more than 30% — hence, they predict the opinion that fulfilling legal obligations is a major reason for addressing health and safety.

Both models suggest that the use of external providers may build OSH awareness, and that legal obligations are the main reason for addressing health and safety, but also support the perception of complexity of legal obligations. This perception can be mitigated by labour inspectorate visits and the presence of health and safety representatives.

Table 7: Probability of the presence of barriers to addressing health and safety in the establishment (in %) after accounting for contextual variables[89]

	Complexity of legal obligations as a difficulty in addressing health & safety	Fulfilling legal obligation as a reason for addressing health & safety
Q350.4. Health and safety representative	-11	n.s
Q154. Visited by labour inspectorate in the last three years	-9	n.s
Q152. The use of external providers in the last three years	+12	+31
Q358.1. Source of information: employer's organisation	n.s.*	n.s
Q358.2. Source of information: trade union	n.s.	+32

* n.s. = not significant

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[89] The values indicated are normalised percentage scores — that is, in the education sector, the chances of perceiving the legal obligations as complex increase if external service providers are used by 12%.

All sectors

When compared to the education sector, two economic activities — human health and arts, entertainment and recreation — have a higher probability of reporting fulfilling legal obligations, while professional, scientific and technical activities and information and communication have a lower probability for the same outcome. The perception that legal obligations are too complex is high in educational establishments; most of the sectors have lower probability than the education sector, which means that this opinion is expressed by education enterprises more often than in other sectors (see Figure 40). Clearly, this suggests that OSH representatives or persons responsible for OSH in the education sector need more support to overcome these obstacles.

Figure 40: Probability (odds ratio) of reasons and barriers addressing health and safety in education vs other sectors (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)

8 OSH employee representation in the education sector

8.1 Introduction

Representation and participation of staff are key cornerstones of the European approach to OSH management due to the region's long-standing tradition of industrial relations, and more specifically the EU Framework Directive 89/391/EEC on OSH that lays down rules supporting information sharing, dialogue, and balanced participation of workers and their representatives.[90] Moreover, substantial evidence indicates that representation and staff involvement in the design of measures significantly benefits OSH management and the development of safety cultures.[91]

In this chapter, we focus on the steps that have been taken in the education sector in supporting representation and staff involvement as follows:

- First, a summary of the results introduces the main findings.
- Next, the main forms of employee representation are highlighted.
- Finally, a regression and composite indicator assessment provide a multivariate analysis of ESENER data with respect to employee involvement.

8.2 Summary of ESENER 2019 findings

Data analysis showed that employees in the education sector are on average generally better represented on OSH matters than in other sectors across the EU. Two-thirds of the educational establishments across the EU-27 use OSH representatives, while work councils or OSH committees were present at less than half of the establishments. However, when compared to other sectors, work councils and OSH committees do not seem to be as common in general, as no sector reported their use in more than half of establishments.

In less than half of the establishments with OSH representatives, the representatives were elected by the employees, again a stronger than average performance than in other sectors. While these are interesting findings, sector variation is not as big, which may simply be due to national legal structures that require organisations to comply with the similar standards across sectors. The results therefore showed a higher variation among countries, with a high share of employee-elected representatives in the Nordic countries and a much lower share in the United Kingdom and the Czech Republic.

According to the ESENER results, in most educational establishments the OSH representatives receive OSH training during work time (81%), though with some country and sector differences. For example, it is most common (around 90%) in Norway, Sweden and Czechia, in the water supply, sewerage, waste management and remediation sector, but less so in Greece (32%), in professional, scientific and technical activities (73%). A relatively high share of establishments also provided OSH training in different topics for employees without mandate as representative (71%). However, the country case studies have also indicated that there may be other barriers to the uptake of OSH training, even when available during work time. For example, if participation is not mandatory, education sector employees will often have to prioritise other tasks, as they typically have a relatively high workload.

Assessment of mobile or external workplaces were, however, only included in the training in less than a third of the establishments. About a fifth of the establishments further offered OSH training in languages other than the native language.

Whereas undertaking trainings on OSH is mandatory in countries such as Denmark, Italy and so on, this is not the case for other countries, such as France. Lack of training might, in turn, impact the level of awareness of top managers around OSH generally and psychological risk factors in particular. The development of (lifelong) trainings for both employers and employees were identified by interviewees as one of the main milestones to be achieved in the upcoming years.

The ESENER results showed that OSH discussions between OSH representatives and the management happen occasionally or regularly in most establishments, and discussions on controversies were in most countries rare. While controversies were reported as more common in

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[90] The EU Framework Directive (89/391/EEC) is available at: Directive 89/391/EEC - OSH "Framework Directive" | Safety and health at work EU-OSHA (europa.eu)

[91] Ollé-Espluga, L., Vergara-Duarte, M., Belvis, F., Menéndez-Fuster, M., Jódar, P., & Benach, J. (2014). What is the impact on occupational health and safety when workers know they have safety representatives? *Safety Science, 74*, 55–58. https://doi.org/10.1016/j.ssci.2014.11.022

educational establishments in some countries (13% in Italy, 12% in Greece), they do not occur more often than average (5%) when compared to other sectors.

Development of the case studies revealed some different approaches to how OSH is managed at different levels and between countries. In Denmark, primary-level education was noted as being well organised for OSH management. In this case, TRIO[92] groups arrange regular OSH-focused meetings to discuss and address issues in establishments, and comprise a leader, the OSH representative and a union representative (see the Annex for details). The case study on Ireland provided insight into the support provided to staff generally in schools though OSH officers, but also in the form of wider specific programmes that provide employee counselling or seek to address bullying and harassment through the development of good working relations with internal and external persons.

However, the case research also noted that despite the approaches to employee representation, teachers can often feel isolated and lacking the necessary support and resources. This can be due to issues such as a lack of general staff cooperation that in turn weakens the possibility to commit to a strong OSH management approach, or the adoption of compliance-based approaches to OSH implementation that do not result in meaningful measures or actions. To a certain extent, there seems to be some missing links between ensuring that employee representation supports the OSH management system strategically, and, in doing so, can help facilitate the introduction of measures and proactive responses that can alleviate some of the risks that teachers face.

The results of the composite indicator analysis of the education sector in involving staff in OSH management showed average to above-average performance for most countries when compared to their own national sectors, although a small number including Greece, Ireland and Switzerland lagged behind the average national sector performance. While there is room for improvement, the good results likely stem from the link between the education sector and the public administration and affiliation with trade unions.[93]

Results from the regression analyses suggested that regular discussions between employees and the management as well as the occasional discussion on OSH in staff or team meetings are positively associated with the presence of OSH representatives in the establishment.

Policy pointer: Although the education sector in general has a comparatively good representation of employees, there is still room for improvement, considering that despite the efforts to establish appropriate approaches, staff may not feel supported or have the resources to manage the challenges they face. Certain risks, especially around having to deal with difficult pupils and families, workload and digitalisation, could be better addressed through stronger frameworks that jointly engage OSH representatives, employee representatives and staff in the design and set-up of measures and ongoing monitoring.

Related to this, in some countries there is a great need for improvements in training of both employers and employee representatives in OSH issues and OSH management. Without appropriate sector-specific knowledge, responsibilities around OSH management may not be understood or acted upon.

As one would expect, the regression analysis showed that commitment to appointing OSH representatives is in some way related to the establishment of organisational communication channels and discussions on OSH, in particular between the employees and management and in staff and team meetings. This suggests that if organisations develop awareness on OSH through discussions and so on, the chances increase of introducing relevant measures, such as appointing OSH representatives.

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[92] Schools in Denmark generally have a TRIO-collaboration that can find ways to address issues. The TRIO is made up by; a leader, the OSH representative and the union representative. The TRIO either follow a defined meeting pattern, or meet more informally, and discuss prevalent OSH related issues as well as the general well-being among teachers. Although TRIOs are established both at primary and secondary levels, it is more common for the primary schools to adopt the practice.
[93] The ESENER 2019 measures used to form the composite indicator included the following:
1. Do you have a health and safety committee or representative?
2. How often is health and safety discussed?
3. Are the OSH representatives provided with training?
4. Discussion of OSH in staff or team meetings.

8.3 Methods of employee representation in the education sector

As mentioned earlier, employee representation plays a crucial role in supporting OSH management. In order to learn about the approaches taken, ESENER 2019 invited respondents to list the forms of employee representation used in their establishment. For the education sector across the EU-27, 67% of educational establishments use an OSH representative, 40% a work council, 40% trade unions and 35% an OSH committee, with the OSH committee becoming increasingly common since ESENER 2014 (26%). OSH representatives are most common in Denmark (100%) and Bulgaria (97%) but less so in France (27%) and Switzerland (24%).

Figure 41: Forms of employee representation (% educational establishments for ESENER 2014 and 2019)[94]
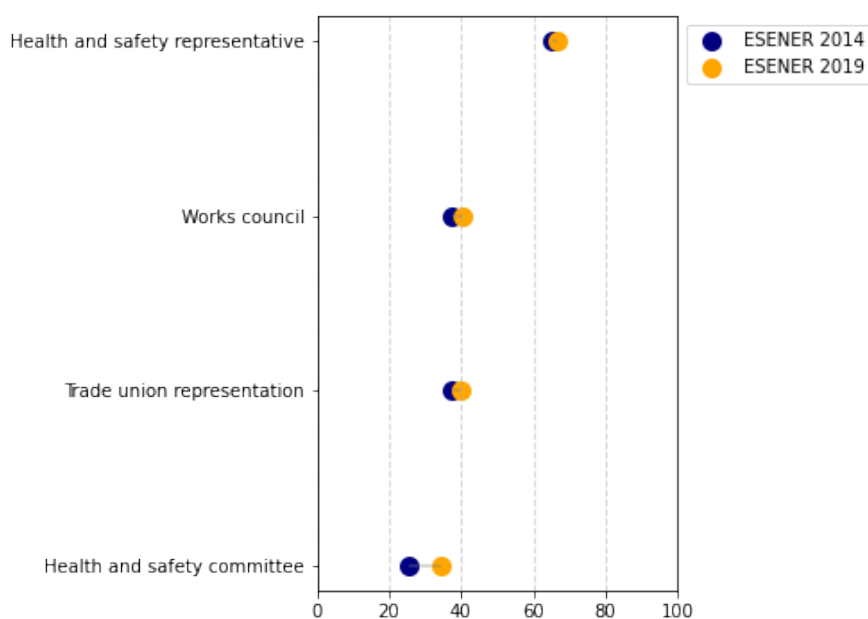
When considering the ESENER 2019 results overall, the education sector is above the average across sectors for OSH representatives (56%), work councils (24%), trade unions (18%) and OSH committees (22%). Clearly, this is reflective of the stronger employer–employee relations as one would expect in organisations with ties to the public administration, and likely adds value to fulfilling OSH management obligations. Having comparatively strong employee representation may also be the reason why discussions on the possible impacts of the use of digital technologies are reported more frequently in the education sector (33%) compared to the EU-27 average (26%). Similarly, issues related to health and safety are discussed more regularly in staff or team meetings in educational establishments (42%) than in organisations in other sectors (EU-27 average 39%).

Since employee representatives' main mandate is to represent employees' interests, it is interesting to explore how health and safety representatives are appointed, whether democratically by employees or by appointment of the management. Across the EU-27, health and safety representatives are elected by the employees in 44% of educational establishments, which is above the average across sectors (36%). The former method seems to be less common in the United Kingdom (13%) and the Czech Republic (9%) as opposed to the Nordic countries.

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[94] Base: All educational establishments.

Figure 42: How health and safety representatives are appointed (% educational establishments by Member State for ESENER 2014 and 2019)[95]
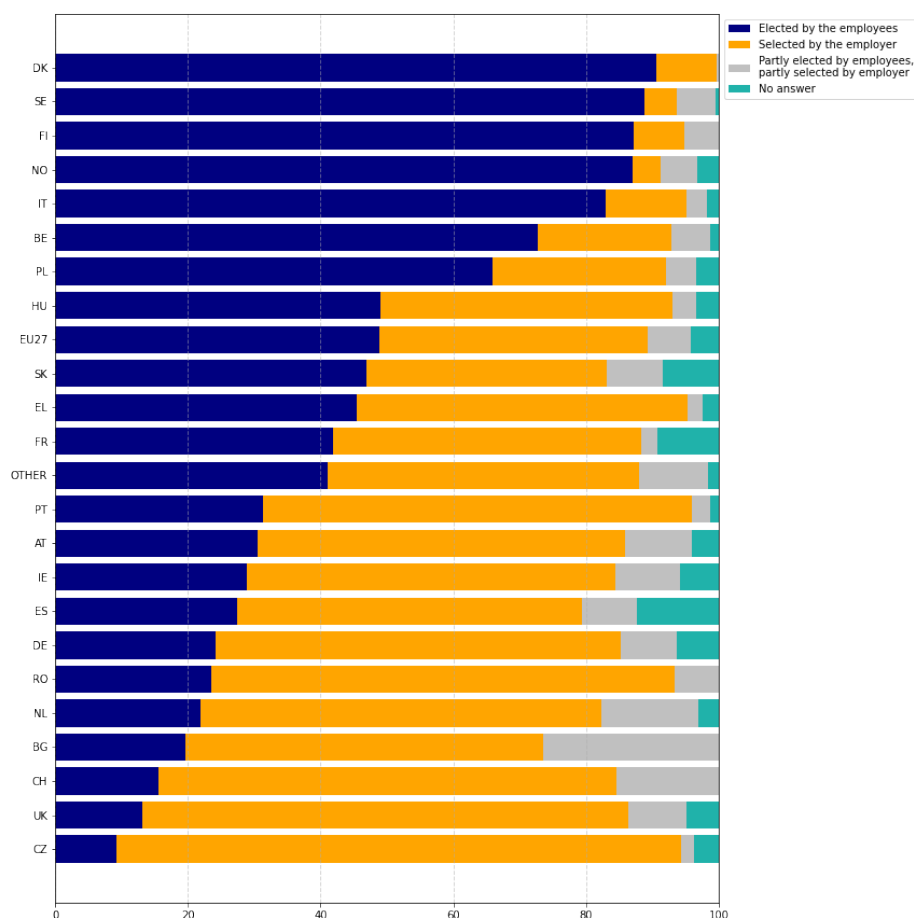
8.4 Methods of employee training and involvement

ESENER also explored whether OSH representatives are provided with OSH training during work time. Across the EU-27, this is the case in 81% of educational establishments and is especially common in Norway (96%) and the Czech Republic (96%) but less so in Greece (32%) and Hungary (61%).[96]

There may also be OSH training for employees generally, regardless of whether they have a mandate as representatives or not. Across the EU-27, 85% of employees in educational establishments receive training on emergency procedures, 73% on the use of dangerous substances, 57% on how to lift and move heavy loads, 52% on how to prevent psychosocial risks, 49% on the proper use and adjustment of their working equipment, and 29% on the assessment of mobile or external workplaces.[97]

Moreover, respondents were asked about the frequency of OSH discussions between employee representatives and the management. Across the EU-27 in the education sector, 36% have such discussions occasionally and 54% regularly.[98] This is similar to the overall sector average of 50% regularly and 39% occasionally; therefore, while the results are decent, there remains some room for improvement. In human health and social work activities, for example, such discussions were reported

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[95] Base: All educational establishments with a health and safety representative.
[96] Base: All educational establishments with a health and safety representative.
[97] Base: Some of the items were filtered and asked only to some establishments i.e. On use of dangerous substances, only if the use of chemical or biological substances was reported as a risk factor; On how to lift and move heavy loads, only to those establishments reporting lifting or moving heavy loads as a risk factor; On assessment of mobile or external workplaces, only to those establishments reporting to have workers working from home or anywhere else outside the premises of the workplace.
[98] Base: All educational establishments with employee representation.

to take place on a regular basis in two-thirds of establishments and occasionally in almost all the remaining organisations in the sector.

Regular employee surveys on OSH provide the opportunity for management to learn of key risks and in developing a proactive safety culture in cooperation with staff. Across the EU-27, 50% of educational establishments conduct employee surveys on a regular basis including questions on work-related stress, which is above the average across sectors (44%). This practice seems to be especially popular in the Nordic countries, as in Denmark, Finland, Norway and Sweden more than 90% do so, compared to 21% in the Czech Republic and 13% in Greece.

Figure 43: Establishments that have conducted an employee survey including questions on work-related stress in the last three years (% educational establishments for ESENER 2019)[99]
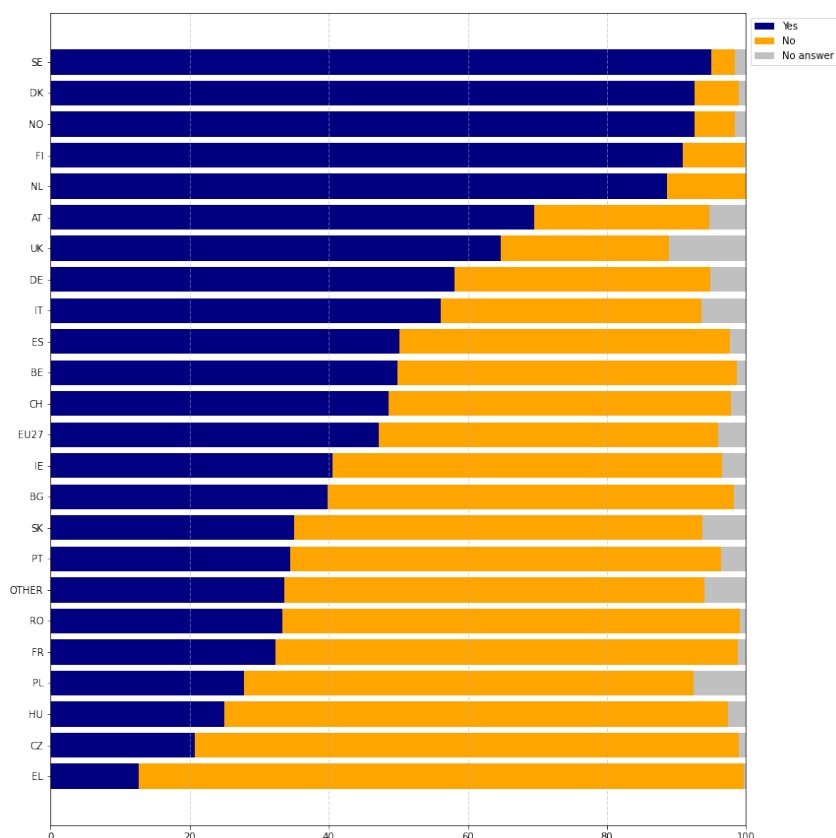
Some establishments ensure inclusion of employees' views and experiences by having structures in place that allow for more employee involvement in the identification of possible causes for work-related stress. Across the EU-27, 56% of educational establishments (micro and small only) have such structures in place, which is above the average of 55%, again with significant variation between countries. While in Denmark (95%) and Switzerland (88%) employee involvement seems to be the norm, it is relatively rare in Slovakia (30%) and Greece (25%). Compared to other sectors, human health and social work activities score high on this measure (72%), although some of the sectors with significant safety risks such as mining and quarrying were much less likely to do so.

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[99] Base: All educational establishments with at least 20 employees.

Figure 44: Establishments where employees have been involved in identifying possible causes for work-related stress (% educational establishments for ESENER 2019)[100]
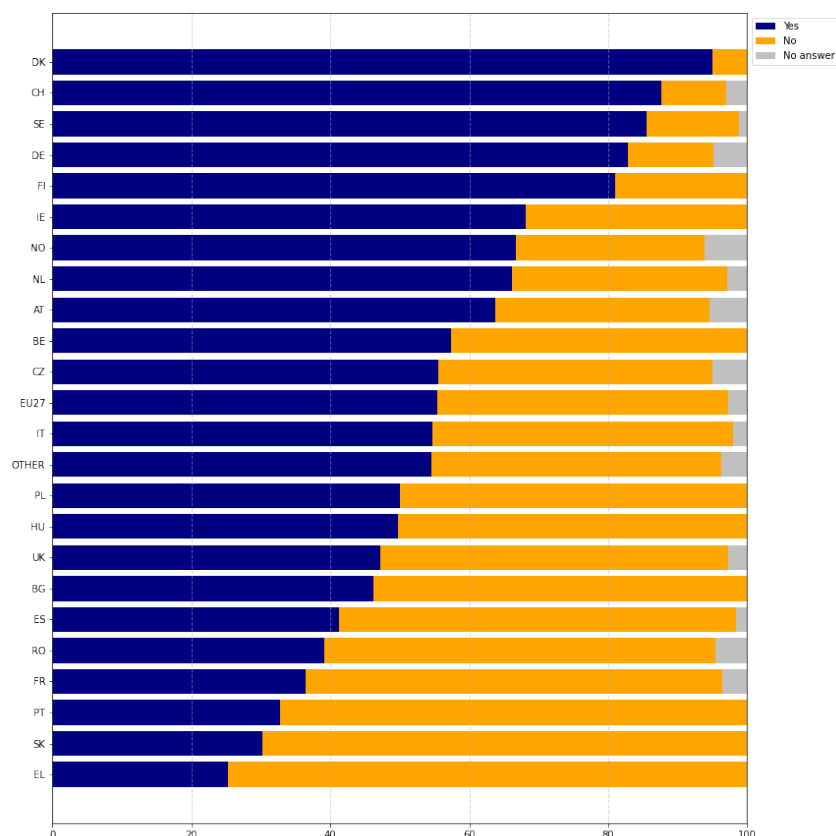
In addition, it is fairly common for employees in educational establishments to play a role in the design and set-up of measures to address psychosocial risks, which is the case in 67% of educational establishments across the EU-27, though this seems to be more common among Scandinavian countries (89% in Denmark and Sweden) compared to others (e.g. Hungary 47% and Poland 49%). In contrast to other sectors, educational establishments (68%) are above the EU-27 average, lower than human health and social work activities (75%) but higher than mining and quarrying (39%).

If measures should be introduced following a risk assessment, on average in the EU-27, employees in educational establishments are more likely to be involved in their design and implementation (80%). In some countries this is the norm (Ireland 96%, Austria 95%) but less so in others (Greece 59%, Slovakia 55%).

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[100] Base: All educational establishments with fewer than 20 employees.

Figure 45: Establishments where employees have played a role in the design and set-up of measures to address psychosocial risks (% educational establishments for ESENER 2014 and 2019)[101]
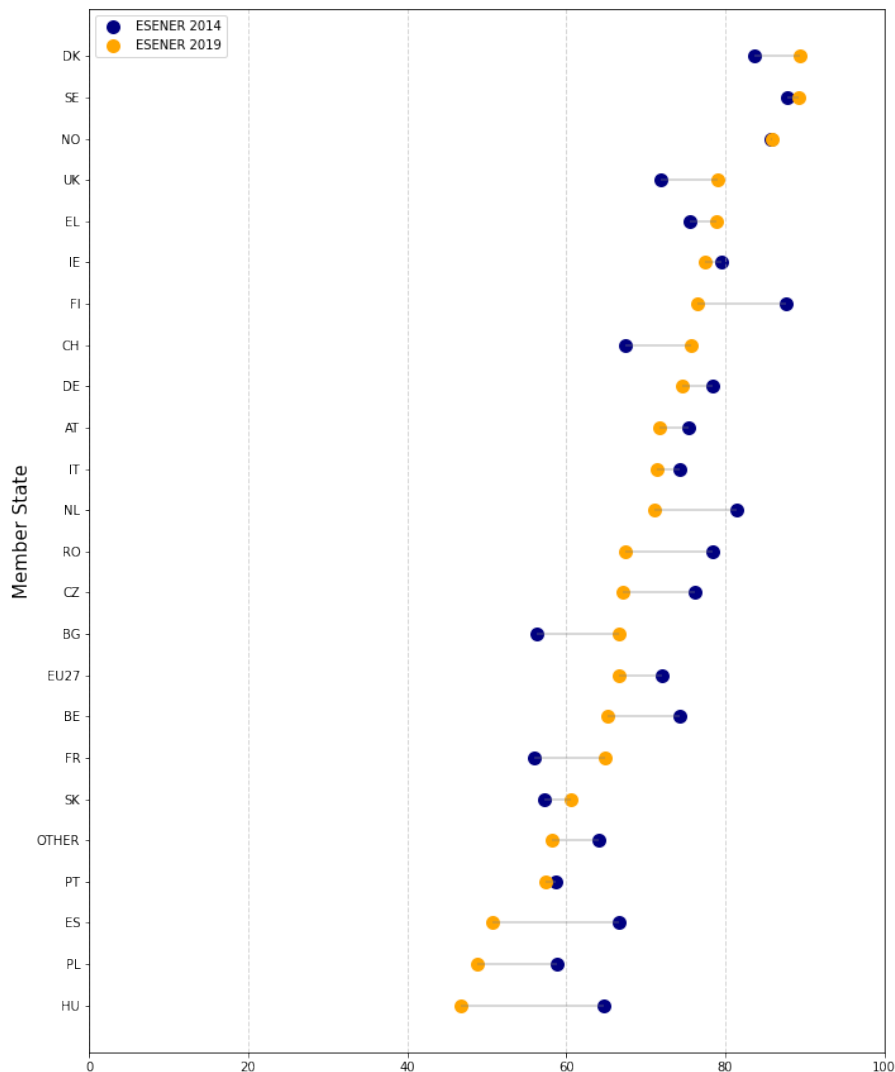
Overall, controversies in relation to OSH seem to be relatively rare in the education sector across the EU-27, as 67% of respondents reported this to happen 'practically never' or only 'sometimes' (27%). These results are similar to the overall average, for example, 66% for 'practically never'.

Greece (13%) and Italy (12%) were among the countries most likely to positively confirm that controversies connected to OSH occur often in the education sector.

Yet, according to the key informants who were interviewed for the case study research, it is felt there is some under-reporting of the true number of controversial events. For example, in some cases, teachers may feel that it is in the interest of pupils not to report any wrongdoings or mobilise internal procedures for fear of negatively affecting them, their education or their family.

Considering that educational establishments sometimes employ persons without fluency in the national language, it is interesting to know whether these establishments offer training in other languages so that all employees build awareness. Across the EU-27, this seems to be the case in 21% of educational establishments that offer training to workers and employ workers who do not understand the national language. In addition, many establishments seem to have changed their approach between 2014 and 2019, leading to great variation in answers. Nevertheless, we can conclude that the practice is relatively

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[101] Base: All educational establishments that over the last three years have made use of measures to prevent psychosocial risks.

uncommon, especially when compared to administrative and support service activities (40%) as well as mining and quarrying (55%). In this context, EU social partners for the education sector called for the translation of national OiRA tools and guidance to ensure their wider usability.

8.5 Multivariate analysis of ESENER results

The assessment of factors influencing the presence of an OSH representative in the establishment was undertaken using regression analysis and ESENER data.

Education

Six OSH factors were included in the analysis to identify the factors correlated with the presence of an OSH representative, that is, four different reasons for addressing health and safety ('fulfilling legal obligations', 'meeting expectations from employees', 'increasing productivity', 'organisation's reputation'), 'regular discussion of health and safety issues between employee representatives and the management', and 'frequency of health and safety discussion in staff or team meetings'.

Out of the six OSH factors included in the model, three have a significant influence on the probability of the presence of a health and safety representative in the establishment, yet only two were significant after the introduction of contextual factors (country, sector, size). Regular discussion between employees and the management is positively associated with the probability of presence of a health and safety representative by 410%, and occasional discussion of health and safety in staff or team meetings increases this probability by 49%. Those two factors are likely to be important variables in every context. The various reasons for addressing health and safety are not significant for this outcome. A health and safety representative is a form of employee representation, therefore regular communication between staff and the management is obviously highly correlated with this form of representation.

All sectors

The education sector ranks lower than 14 other economic activities in terms of the probability of presence of an OSH representative, with remaining economic activities having similar (not statistically significantly different) probability as education.

Figure 46: Probability (odds ratio) of the presence of a health and safety representative in education vs other economic activities (1 = similar probability as in education; <1 lower probability than in education; >1 higher probability than in education)
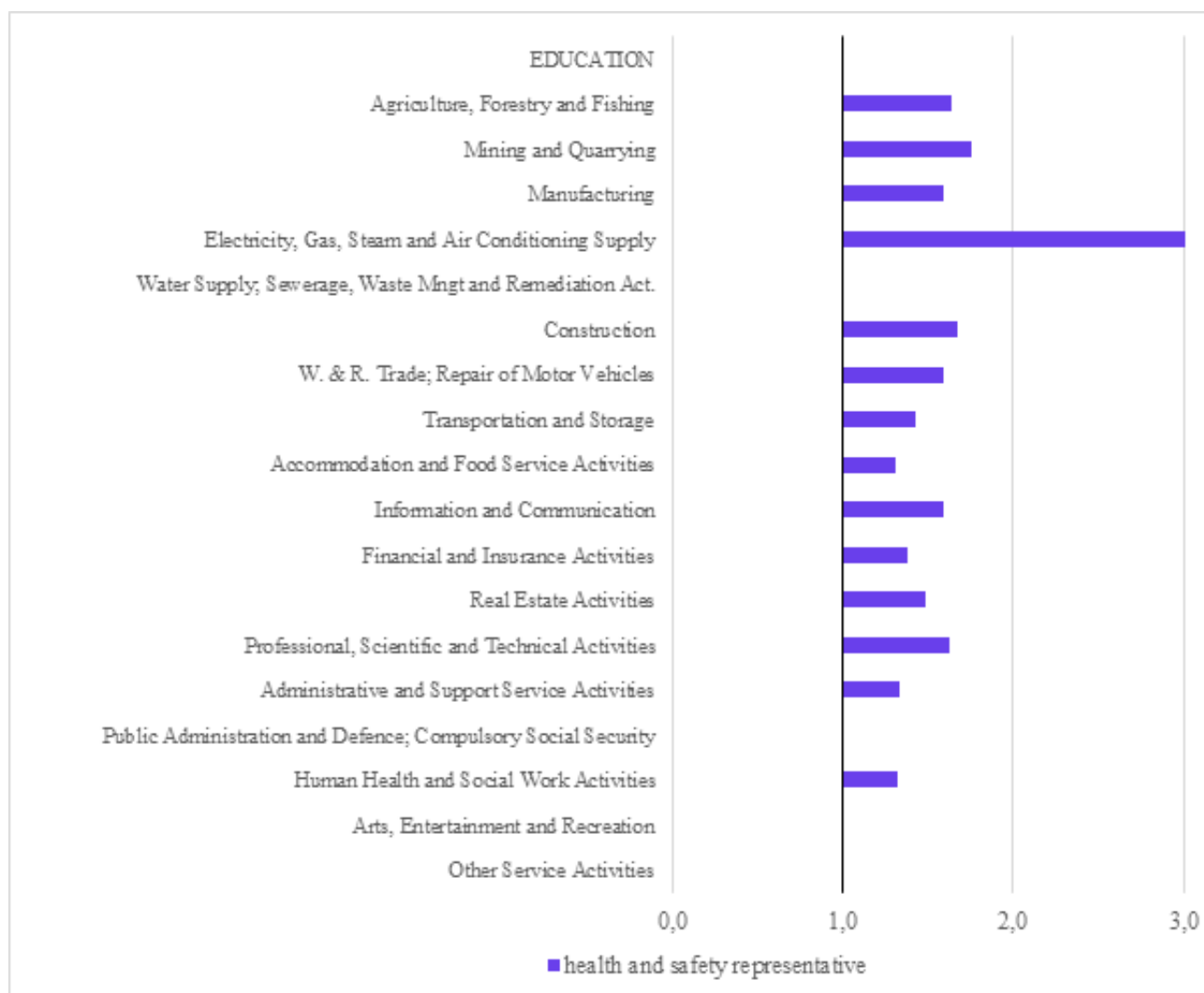
8.5.1 Composite indicator (OSH employee representation)

To ease the communication of the results, the study developed a composite indicator for the field of OSH employee representation using several related measures from the ESENER 2019 dataset.[102] The indicator shows how the national education sector compares to other national sectors (Y axis), and how the national scores compare to other countries overall (X axis).

When compared to the other national sectors, the results show that, overall, the education sector scores better than average in terms of employee involvement in OSH. However, there is some wide variation in the scores, with some countries in the green and purple clusters doing quite well, and others in the red and blue clusters obtaining average or below-average results.

The purple cluster (Bulgaria, Denmark, Finland, Germany, Norway and Poland) ranked the highest on measures involving workers in OSH management internationally, although the cluster did only marginally better than the others.

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[102] A detailed methodology is contained in the Annex.

Figure 47: Worker participation
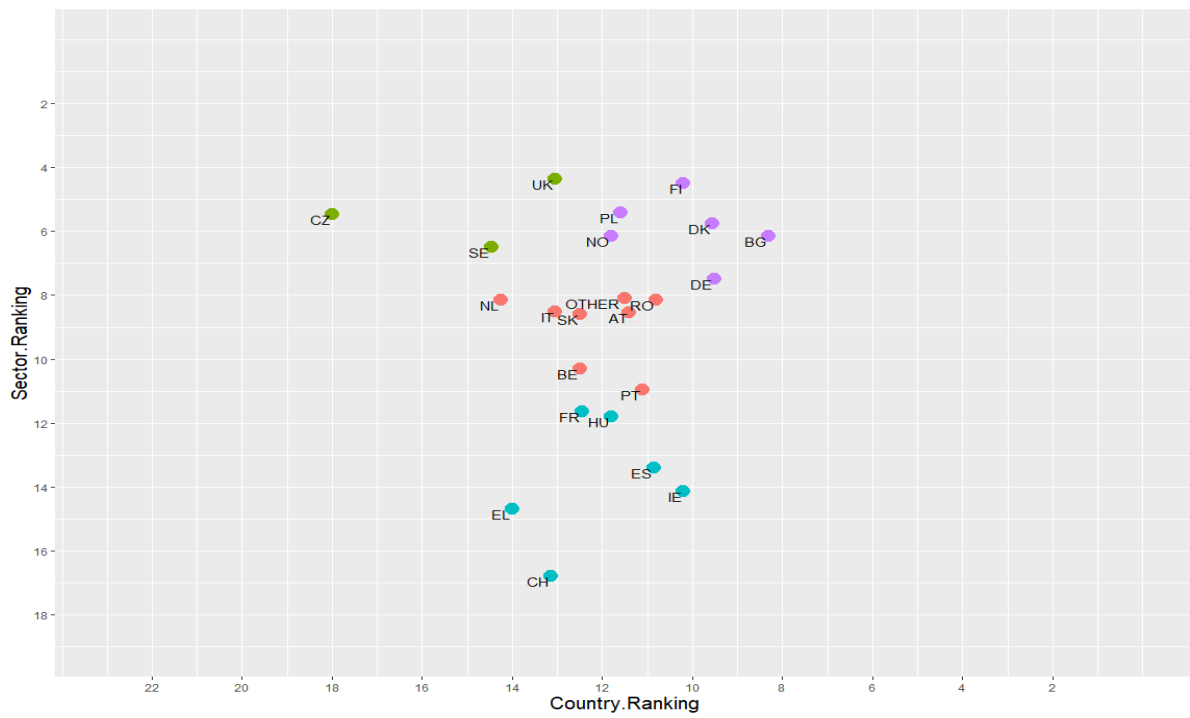
9   Conclusions and policy pointers

9.1   Introduction

This section provides a series of conclusions on the ESENER study in the education sector and the main findings. Some policy pointers are also provided to be viewed as items for discussion and possibly policy development for strengthening OSH management in the education sector.

Like all sectors, the education sector in Europe is subject to the EU Framework Directive 89/391/EEC on health and safety and supporting legislative provisions through national legal frameworks aiming to encourage the introduction of measures to improve OSH management.

In this context, ESENER plays a key role in monitoring how OSH is managed in the workplace by using survey methods to monitor the actions and measures taken in establishments.

However, by focusing on the results for the education sector, ESENER can be used to provide insights on whether key OSH practices that can be used to provide a safe working environment have been implemented in some form, thus providing opportunities to measure progress and identify areas to be addressed.

This includes areas such as the identification and elimination of health and safety risks-, including new and emerging-the managerial commitment to the working environment, the consultation and participation of workers, the provision of good information and so on. Moreover, further primary and secondary research was undertaken to complement the findings from ESENER with insights relevant to the OSH context in educational establishments.

9.2   Conclusions and policy pointers

As one may expect, the results from the ESENER survey and the literature review showed that the OSH risks facing the education sector are typically psychosocial and MSD risks, and, more specifically, include dealing with difficult pupils and parents, time pressure, offensive and sometimes violent behaviour, prolonged sitting, repetitive hand or arm movements, and loud noise. These types of risks are generally acknowledged as endemic to the sector by education professionals, representatives and previous studies, and pose significant threats to most teaching staff and management if left unmanaged.

Of course, there are also possible disparities in the level of risks between establishments generally, and between different levels of education, especially since tertiary level students are more mature and much less prone to antisocial behaviour. This also includes establishments with and without specialised teaching facilities that include chemicals or machines and so on.

However, apart from risks associated with difficult pupils, it seems that half or more of educational establishments are not aware of the risks that are recognised by experts and leading representatives as common to the profession, for example, around prolonged sitting or time pressure. Therefore, in some areas, it seems that there are some significant gaps in the level of risk awareness, especially among smaller establishments.

Moreover, interviews with key informants in educational and sectoral bodies stressed the significant role that digitalisation is playing as a driver of new risks, such as blurring the balance between work and private life, while possibly also mitigating some traditional risks, such as enabling people to have more flexible working lives or reducing commuter time and so on. Online teaching and digital communications are exposing teachers to enhanced or new challenges in managing classrooms, ensuring good exam results and meeting parental demands, and in some instances decisions to transition to home teaching have put management–parent relations under strain.

Policy pointer: The risk factors identified as most prevalent in the education sector, as determined from the results of the literature review and ESENER 2019, included the issues of having to deal with difficult pupils, threats and violence. MSD risk factors were also reported prominently, including prolonged sitting, repetitive work, as well as other risks, such as loud noise.

Despite a good level of awareness in many establishments on the well-known and important OSH risks, the results suggest that there is still room for improvement in some establishments and some countries. Furthermore, while the level of awareness is good in some areas, the results point to a

major gap concerning the understanding of the significance of the psychosocial working environment. This is especially the case around the organisational and relational aspects of teaching, particularly at primary and secondary levels, including the quality of communication (towards pupils/students, parents, colleagues and supervisors), emotional demands, irregular working hours and job insecurity.

Managers and OSH representatives should ideally gain better awareness of the risks and how they manifest as personal challenges in the working lives of education professionals. Furthermore, the results suggested a particular need for expertise, tools and support for micro- and small enterprises that seem less aware of the risks.

In terms of completion of regular risk assessments, the results show that there is a good level of commitment (77% of establishments in 2019), for example, when compared to other sectors (the education sector is just above the overall EU-27 average). Moreover, as measured on the composite indicator for risk assessment management, the education sector is an 'average' sector compared to other sectors across several aspects of risk assessment management — thus, while the performance in this area is good, there is clearly scope for improvement. The regression analysis showed that appointing OSH representatives, undergoing inspections, the focus on avoiding fines and considering OSH management as a legal duty are factors associated with higher likelihood of regular completion of risk assessments.

In explaining some of the gaps, the results suggest that there are more resources and competences available for conducting the risk assessment at the medium and large educational establishments compared to the micro- and small establishments — this latter group is less likely to undertake regular risk assessments and other OSH management practices, suggesting that staff in these establishments experience a less tightly controlled working environment.

With respect to the key risks routinely covered by risk assessments, the results showed that between 70% and 90% of the educational establishments routinely cover dangerous chemicals and machines, while ergonomic, psychosocial risks and noise are covered less extensively, typically within the region of 50% to 70%. This seems to be at odds with the risks present in establishments that are endemic to the sector as mentioned above.

Policy pointer: Most establishments in the education sector reported regular conducting of risk assessments, and the share is growing since 2014.

Yet, gaps in their regular completion remain. In addition, the results show that there is a need to improve the focus and scope of risk assessments, for example, by ensuring that they include the main risks facing the sector, including psychosocial, MSD and organisational aspects, and cover all staff and teaching practices, including those associated with home working since the COVID-19 pandemic began.

Building awareness is clearly part of this, but focusing on the need to follow legal obligations and the risk of receiving fines should help to boost the response. Importantly, the analysis showed that appointment of OSH representatives may have a positive associating with the improvement of the likelihood to complete risk assessments, and such persons are likely to be receptive to messages encouraging their better and more comprehensive application.

Furthermore, regular completion of risk assessments is associated with recent visits by the labour inspectorate and the avoidance of fines, showing that interaction with authorities can have lasting positive effects. Targeting smaller educational establishments is key in addressing the main gaps around the regular completion of risk assessments, thus helping to overcome their resource, skills and time limitations.

According to the regression analysis, the education sector is more likely to view psychosocial risks as more challenging to manage when compared to other sectors, and it is also more likely to view psychosocial risks as more difficult to address after efforts have been made to introduce measures. This highlights the severity of the challenges for teaching staff, especially concerning difficult pupils and parents, and the need for further actions to encourage representatives and staff to cooperate on the development of OSH management approaches.

Moreover, key features of the teaching sector are not yet fully accounted for in risk assessment practices, namely covering staff not on the payroll and working from home. While ESENER was last completed in 2019, this latter aspect clearly does not align well with the transition to home working since the onset of the COVID-19 pandemic.

Policy pointer: A high share of establishments perceived psychosocial risks as more difficult to deal with than other OSH risks, especially where experience had been gained in trying to manage such risks, thus showing the complexity of the challenges. And, the pattern of results suggested that establishments for which the main reason for regular risk assessment is to fulfil legal requirements may be less likely to develop the internal competences necessary to obtain a proactive safety culture and the capacity to deal with psychosocial risks — thus suggesting the need for stronger motivations to successfully manage risks On the other hand, it is more likely for establishments to develop the necessary skills internally in the organisation when the main reason for addressing health and safety is to improve productivity and meeting employees' needs.

Hence, incentives of both a formal and legal character and those supporting the intrinsic potential of improved collaboration and increased productivity are likely to enhance the OSH performance of establishments in the education sector.

Involvement of employees in the design of measures following a risk assessment was found to be more likely when the risk assessment is conducted by internal staff. This is especially important for the education sector, considering that teaching can be a highly 'individualised' experience with many staff focused on their own teaching activities. Feelings of isolation could be made worse if there are poor social bonds among staff and since the onset of the COVID-19 pandemic with working from home becoming more prominent. Involving staff may therefore help to bring OSH issues to the fore and support the development of safety cultures.

In terms of actions taken to improve employee health, between a third and half of the education establishments reported measures to enhance healthy nutrition, preventing addiction, sport activities outside of working hours and back exercises at work. The data suggest that the education sector performs well compared to other sectors in introducing such actions.

Yet, although around half of establishments use such approaches, the use of measures to promote sustainable working lives by reducing MSDs has decreased slightly across the EU-27 from 2014 to 2019. This trend does not correspond well with the main risks facing the sector around MSDs, especially prolonged sitting.

Most of the educational establishments keep records of employees' sickness-related absences. In addition, more than half of the establishments reported to have a procedure in place when employees return to work after a long-term sickness-related absence. Such procedures have become more common in countries that already had a high adoption rate but unfortunately have become less common where only few establishments made use of them. The general pattern, therefore, does not seem to correspond well with the intense psychosocial and other risks that may lead to long-term absence.

Policy pointer: A high share of the establishments in the education sector use measures to support and sustain the health and wellbeing of employees and have procedures in place to support return to work after long-term sickness absence. Yet, there are signs that these initiatives are quite limited and are on the decrease in some countries. Given the risks facing the sector, and the intensification of risks since the COVID-19 pandemic began, there is a need to invest in concrete mitigating activities, especially preventive measures, such as those that may reduce the MSD risks of working from home and due to prolonged sitting. While all educational professionals suffer from MSD risks, the risk of prolonged sitting appears to be more acute in the higher education sector, and thus demands a more targeted response.

Overall, the results of the composite indicator on OSH commitment that combines several measures show that there is wide variation between countries with respect to OSH commitment in the education sector, and that generally there is an average to below-average performance. Interview feedback from

education representatives suggested that in some cases this may be explained by lack of managerial commitment, among other things.

Yet, the regression results indicated several factors that may improve managerial commitment towards OSH, including appointing an OSH representative, regular discussion of OSH between employees and management, training received by team leaders, and meeting expectations from employees as a reason for addressing health and safety.

On this last point, EU social partners stressed the heighted risk of limited supply of teachers and staff retention that is partly due to poor perceptions of the working environment.

Policy pointer: Most educational establishments have procedures and a division of responsibilities concerning OSH. However, these formalities are not enough to secure the commitment necessary for an ongoing and proactive implementation of OSH measures. To enhance the approach, the results pointed towards securing the (stronger) commitment of management in the first instance, appointment of OSH representatives, better organisation between management, representatives and staff, and OSH training among management and team leaders. Development of organisational cultures that address the expectations of employees also was shown to create the conditions for a stronger approach to health and safety.

While stark differences were identified between countries, as confirmed by the composite indicator results, the education sector was noted as doing comparatively well in introducing measures to manage psychosocial risks such as action plans to reduce work-related stress, and procedures to manage bullying and harassment from colleagues as well as threats, abuse or assault from external persons. Interview feedback indicated that this may not be surprising considering the nature of the work and the need to manage difficult pupils and parents.

Yet still, the use of such measures is far from widespread across the sector despite the challenges of providing teaching, especially at primary and secondary levels. Adoption of such measures would also be beneficial considering the transition to home working since the COVID-19 pandemic began and the associated growing risk of isolation and longer working hours or pressures that some staff may experience.

The regression analysis showed that the identification of psychosocial risks is correlated with the use of a psychologist or occupational health doctor. Moreover, the analysis also revealed that the inclusion of supervisor–employee relationships in risk assessments is related to the introduction of measures such as increased decision authority, training on conflict resolution, confidential counselling and measures to reorganise work. These measures are also more likely to be introduced if the establishments already have relevant procedures and ction plans to manage psychosocial risks, as mentioned already.

Policy pointer: On average, the education sector seems to be performing better than other sectors concerning the management of psychosocial risks, but there is still huge variation between countries, and a considerable part of the education sector does not have adequate procedures and skills to manage psychosocial risks. Considering the high prevalence of psychosocial risks in the sector, these limitations likely carry serious health consequences for affected employees.

Results from the regression analyses confirmed that many of the psychosocial factors and measures taken are related to each other, and show that if psychosocial risks are taken seriously, establishments will be proactive in taking action. Such steps may not solve all problems but are likely to ensure that organisations can more effectively deal with them. The results showed that one of the most important factors for the management of psychosocial risks is meeting expectations from employees as a main reason for addressing health and safety. Thus, as one may expect, the level of managerial recognition towards staff wellbeing seems to be linked to the extent that actions are taken to manage the psychosocial working environment.

Furthermore, it is important to remember that awareness and adequate measurement of the psychosocial risks are important and necessary steps, but not tantamount to the ability to manage and prevent psychosocial risks in the establishments. In many establishments, both internal and external OSH experts such as psychologists and occupational health doctors, discussions at the top management level, involvement of employees in the process and new qualifications may be needed for effective prevention. The results showed that taking positive steps will likely lead to the introduction of concrete actions such as improved decision authority, training on conflict resolution, confidential counselling and measures to reorganise work.

Considering the results from ESENER 2019, the education sector did not seem well placed in terms of OSH for managing the enhanced adoption of digital tools since the COVID-19 pandemic began, with just one-third of the educational establishments reporting discussions on the impact of digitalisation on employees' health and safety. The interviews with EU social partners and education sector representatives noted the increasing challenges of using digital teaching methods in controlling classes and ensuring that students receive the best education. Moreover, ongoing online communication with parents has placed increased pressure on staff and further blurred the boundaries between work and private life.

The regression results showed that several factors are positively related with discussing risks due to digitalisation, including regular OSH discussions among top management, regular completion of risk assessment, and the presence of a health and safety representative.

Policy pointer: Given the transition to home working, and the fact that this practice is likely to become a 'new normal' post-COVID-19, actions are needed to strengthen the risk management of digitalisation activities. This includes ensuring that risks can be managed around providing classes either partly or fully online, ensuring compliance with data privacy and other administrative steps, establishing suitable home working practices and use of appropriate equipment. In addition, digital tools and those still emerging such as AI systems should undergo proper risk assessment and feature in staff discussions on OSH.

While building awareness is clearly needed, further positive steps may include stronger employee involvement and specific training of OSH representatives, promotion of the regular use of risk assessments and their coverage of all key OSH risks, and stronger commitment from management in recognising and acting upon such risks.

The results showed that the education sector has strong motivations for complying with OSH rules to ensure their legal duties are fulfilled and to meet expectations from employees.

Yet, worryingly, the analysis also showed that education sector establishments were more likely to indicate that OSH rules are complex when compared to most other sectors. The regression analysis showed the important role played by on-site visits by inspectorates and the role of OSH representatives in helping to reduce perceptions that OSH rules are complex.

Policy pointer: In summary, the drivers for OSH management in the education sector were reported more frequently than barriers, but still measures can be taken to support positive motivations and help establishments to overcome any obstacles.

Motivations to manage OSH may be strengthened by stressing and demonstrating the benefits of better collaboration, cooperation and productivity. And, the barriers to compliance due to the perceived complexity of OSH legislation can be reduced through visits made by the labour inspectorate and by appointing OSH representatives who can encourage their employer to establish an effective OSH management system.

The perception that OSH regulations are complex was expressed more often in the education sector compared to most other sectors. Clearly, this suggests that OSH representatives or persons responsible for OSH in the education sector need more support to overcome these obstacles.

The previous conclusions and regression analyses mentioned above have shown that employee involvement, staff training and appointment of OSH representatives are associated with strengthening of OSH management approaches in the education sector.

Using the ESENER 2019 data, compared to other sectors, for the most part the composite indicator analysis showed that the education sector was slightly above average in engaging employees in the management of OSH. About two-thirds of the educational establishments across the EU appoint OSH representatives, and around half of these are elected. Work councils or OSH committees have been established at less than half of the establishments. Notably, there is quite wide variation among countries when comparing, for example, the Nordic countries to other parts of Europe.

The literature review results showed that schools with direct employee participation had a positive attitude to employee involvement. Moreover, schools with high levels of social capital can help reduce psychosocial risks, improve teachers' professional experience and improve the teaching experience for pupils. It was noted that schools with trustful relationships involved employee representatives in decision-making on major changes.

The regression analysis using data from ESENER 2019 showed that regular discussion between employees and the management, and discussions of OSH in team meetings, increase the probability of appointment of health and safety representatives.

Policy pointer: Although the education sector in general has a comparatively good representation of employees, there is still room for improvement, considering that despite the efforts to establish appropriate approaches, staff may not feel supported or have the resources to manage the challenges they face. Certain risks, especially around having to deal with difficult pupils and families, workload and digitalisation, could be better addressed through stronger frameworks that jointly engage OSH representatives, employee representatives and staff in the design and set-up of measures and ongoing monitoring.

Related to this, in some countries there is a great need for improvements in training of both employers and employee representatives in OSH issues and OSH management. Clearly, with appropriate sector-specific knowledge, responsibilities around OSH management are more likely to be fulfilled.

As one would expect, the regression analysis showed that commitment to appointing OSH representatives is in some way related to the establishment of organisational communication channels and discussions on OSH, in particular between the employees and management, and in staff and team meetings. This suggests the development of awareness on OSH in organisations, is associated with an increased rate of introducing relevant measures, such as appointing OSH representatives.

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Annex

1. Annex - Data processing and analysis

The extraction of education datasets from the ESENER 2019 and ESENER 2014 datasets has been done by selecting only those establishments described by the variable "Nace1" equals to 16 (sector P). As a result of this step, the total sample size of the education datasets amounted to 3,540 entities (ESENER 2019) and 3,605 (ESENER 2014). The total sample sizes of the education datasets is significantly smaller than the total for the entire ESENER datasets. Additionally, there is great variation between countries, e.g. in the 2019 dataset, the number of establishments varies from 26 in Malta to 293 in Poland. In 19 countries (almost 60% of all 33 countries surveyed), the sample size does not exceed 100 entities, and in 4 countries it is below 50 establishments.

Given the need to produce reliable estimates, but also considering the need to analyse as many countries as possible separately, we selected countries based on the Eurostat 2008 "Survey sampling reference guidelines[103] which recommends that the minimum sample size should be 45 responses, although we relaxed the assumption and selected countries with 30 responses. Countries with very small sample sizes were removed entirely while the rest were grouped as 'others'. The approach is shown in the Table A1.

Table A1. Number and share of establishments from education sector in total number of establishments participating in the ESENER 2019 survey.

Country	Number	%	Approach	Country	Number	%	Approach
AT	60	1,9	Include	IT	399	12,4	x
BE	63	2,0	x	LT	17	0,5	Other
BG	37	1,2	x	LU	3	0,1	Other
CH	68	2,1	x	LV	13	0,4	Other
CY	5	0,2	Other	MK	6	0,2	Other
CZ	68	2,1	x	MT	2	0,1	Other
DE	439	13,6	x	NL	76	2,4	x
DK	32	1,0	x	NO	31	1,0	x
EE	11	0,3	Other	PL	189	5,9	x
EL	66	2,1	x	PT	54	1,7	x
ES	199	6,2	x	RO	73	2,3	x
FI	32	1,0	x	RS	20	0,6	Other
FR	440	13,6	x	SE	111	3,4	x
HR	15	0,5	Other	SI	8	0,3	Other
HU	58	1,8	x	SK	34	1,1	x
IE	29	0,9	x	UK	337	10,4	x
IS	3	0,1	Other	Total	3225	100,0	

The other variable requiring grouping is establishment size. With a view to obtaining better estimates, micro and small establishments were merged in one group, and medium and large establishments in another - as a result – the analyses were split into two groups according to the size. This division is

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[103] Eurostat sampling reference guidelines - Introduction to sample design and estimation techniques - Products Manuals and Guidelines - Eurostat (europa.eu)

clearly based on lengthy evidence that smaller organisations have less resources, awareness, access to expertise etc. resulting in weaker scores on ESENER measures. Therefore, it is expected that the analysis for these two groups will follow the same or similar logic. Of course, the education sector is embedded in the public administration meaning that support is available to 'small organisations' due to wider resources. The reality is that entities in the public sector are not SMEs as legally defined by the SME definition which is typically used in supporting policies, such as competition policy, to provide thresholds for receipt of support to private companies such as subsidies due to 'market failures' e.g. poor access to finance. Therefore, perhaps, the results are showing smaller differences between organisation sizes than normally expected.

ESENER datasets include surveys weights to correct the probability of units selected for the sample and reflect the structure of the population. The ESENER dataset provides 5 types of weights. The same weights have been applied to Education datasets and used for descriptive analysis, i.e. frequencies and bivariate analysis. Appropriate weights have been used when analysing different variables, for example 'estprop' for international comparative analysis of establishments, whereas 'empprop' for comparative analyses of employees. However, the standard approach of not weighting the data for multivariate analyses has been followed considering the relationships estimated would be more consistent and would have smaller standard errors.

2. Composite indicator analysis

In this study, several composite indicators were formulated for the purpose of benchmarking sector performance in several sub policy domains and each one of those, have a specific policy focus. Those are presented in Table A2.

Table A2: Composite indicator overview

Composite indicator	Variables and weights
1. Risk assessment management	1. Q250 (40%) Regular conducting of workplace risk assessments. 2. Q251(20%) Conducting of risk assessments by internal staff 3. Q253(10%) Whether risks assessments cover workplaces at home. 4. Q255(10%) If risk assessments cover only people on the payroll or other types of workers 5. Q258 (20%) If employees are usually involved in the design and implementation of measures following a risk assessment.
2. OSH commitment	1. Q155 (25%) Putting documents in place that explain responsibilities or procedures on health and safety. 2. Q156 (25%) Availability of an OSH responsibilities document to the people working in the establishment. 3. Q162 (25%) Discussions on OSH at the top level of management. 4. Q163 (25%) Provision of training to team leaders and line managers on how to manage health and safety.
3. Psychosocial risk management	1. Q300 (30%) Does your establishment have an action plan to prevent work-related stress? 2. Q301 (20%) Is there a procedure in place to deal with possible cases of bullying or harassment? 3. Q302 (20%) And is there a procedure to deal with possible cases of threats, abuse or assaults by clients, patients, pupils or other external persons? 4. Q306 (10%) Did the employees have a role in the design and set-up of measures to address psychosocial risks? 5. Q309 (10%) Do you have sufficient information on how to include psychosocial risks in risk assessments? 6. Q151 (10%) Does your organisation use a psychologist?
4. Worker participation	1. Q350 (40%) Do you have an OSH committee or representative? 2. Q352 (15%) How often is health and safety discussed? 3. Q354 (15%) Are the OSH representatives provided with training? 4. Q357 (15%) Discussion of OSH in staff or team meetings. 5. Q258 (15%) If measures have been taken, are employees involved in their implementation.

For each of the variables above, by examining the country percentage scores, two ranking scores were determined per country:

1. '**Within country ranking'** to rank the education sector against other sectors nationally
   o A ranking score from 1st to 19th was allocated per country, considering the 19 NACE sectors;

2. '**Between country ranking'** to rank and compare the education sector internationally;
   o A ranking score = was allocated per country considering also the approach to analysing countries as indicated in Table 1.

3. Country reports

The aim of the country reports is to provide contextual information at the national level on the OSH dynamics and challenges in the education sector at the primary, secondary and tertiary levels for a number of selected countries: Denmark, Germany, France, Ireland and Italy. Each one of the reports includes information on:

1. OSH in a National context, which provides details on key ESENER results for the education sector at a national level, as well as OSH law and policy characteristics;
2. OSH risks using qualitative results to pinpoint the main sources of OSH risks facing educational professionals;
3. OSH management, bringing together interviewee feedback to highlight the main drivers and barriers in managing OSH in the education sector.

A number of interviews were conducted with key informants, including social partners, employers, safety experts and representatives from the education sector. The main findings for each one of the selected countries are presented in the following sub-sections.

3.1 Denmark

Danish education system

The Danish education system is divided into three overall education levels: primary, secondary and tertiary level of education. Within this context it is relevant to note that education in Denmark is compulsory for children below the age of 16 as well as that it is free for all. *The primary level of education* encompasses the entire period of compulsory education, and the age group spans from the age of six to 16 years. Much of the Danish population chooses the public school at the primary level of education, which is tuition free as it is financed by taxes. At this level of education, the classes are divided according to age and all genders are represented in each class.

After the primary level of education, the students can choose to move on *to secondary level of education*. They can either choose a vocational or technical education or go to the Danish gymnasium, which is a three-year general academically oriented program that qualifies the student for admission to higher education. The secondary level of education is not mandatory, which is why the age group varies from 15 – 20 years. Most of the students at the gymnasium continue their education at *the tertiary level*, either at universities or trade schools, which are also tuition free in Denmark.

OSH in a Danish context

Figure 1 shows some of the key Danish education sector results from the ESENER 2019 survey. The results suggest that OSH management is important to the sector considering that management are committed to discussing OSH at the top level (97%), over three quarters of establishments complete risks assessments (99%), and many educational establishments have procedures to deal with possible threats from pupils (92%). Psychosocial risk management is also a recognised concern with steps taken including developing action plans to prevent work related stress (74%), and ensuring access to information on how to include psychosocial risks in risk assessments. On all measures, Denmark scored higher than the EU 27 average.

Figure 1: Danish education sector scores on key ESENER 2019 measures
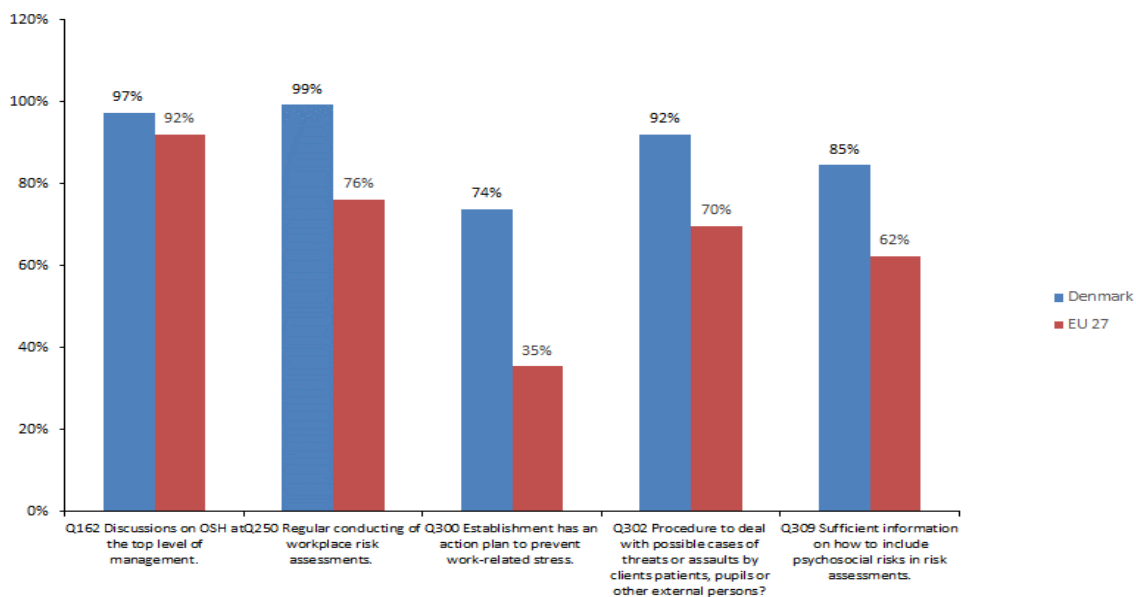
A recent legal and policy mapping survey was conducted for an EU OSHA study (2021) that produced an Overview Report on the European Survey for New and Emerging Risks (ESENER). The survey collected basic feedback, e.g. 'Yes/No' answers, from national OSH authorities to identify national policy characteristics.

The survey results provide some further contextual information that may help to interpret the scores for the education sector on the ESENER 2019 measures, for example:

- The National Labour Inspectorate in Denmark provides tools and guidance to support inclusion of psychosocial risk in risk assessments.
- All small, medium, and large establishments in Denmark are required by law to appoint an OSH representative.
- Team leaders and line managers are obliged to undertake training on OSH to comply with minimum legal requirements.
- There is legislation in place mandating that establishments introduce procedures to deal with difficult or abusive 'external persons' such as clients, patients, pupils etc;

Thus, there are legal requirements to be met by establishments, as well as possible services to help with OSH management in the education sector. Seemingly, this partly explains Denmark's overall high scores on the five key ESENER measures.

Risks and their sources

Across the three educational levels, psychosocial risks were identified as the primary OSH risk in the education sector. The primary sources of psychosocial risks are:

- high workload and time pressure, and it is common that teachers feel that they do not have enough time to do their job properly;
- the relational aspect of teaching is a key psychosocial dimension in educational work as it forms part of all activities whether teacher-to-student, teacher-to-parents, and among staff;
- connected to the above source, 'high emotional demands' form part of the relational aspect of teaching, and result in 'peak-loads' of stress and tension.

Since the pandemic, a tendency across all three educational levels is that teachers have been struggling with working at home due to poor equipment (screens, tables, chairs etc.) and unsuitable home office facilities. The interviewees underline that this could have possibly exacerbate MSD risks. However, at the primary and secondary levels, the interviewees emphasize that psychosocial risks have intensified. OSH risks at the tertiary level differs from the other two levels, in the way that teachers do not experience

high emotional demands since students are relatively mature, committed and come from stable socioeconomic backgrounds. However, besides high workload and time pressure, teachers at this level struggle with musculoskeletal disorder (MSDs) as a primary risk, caused by prolonged sitting and standing.

OSH Management; drivers and barriers

As is evident from the five key questions from the ESENER 2019 survey, compared to the average of the EU countries, Denmark obtained high scores. Findings from the legal mapping survey mentioned above, showed that this could be due to the legal requirements in Denmark as well as good access to information and help. However, this analysis revealed that across all three education levels teachers are struggling with several psychosocial risks at the workplace, which have been intensified since the COVID pandemic.

Schools in Denmark generally have a TRIO-collaboration that can find ways to address issues. The TRIO is made up by; a leader, the OSH representative and the union representative. The TRIO either follow a defined meeting pattern, or meet more informally, and discuss prevalent OSH related issues as well as the general well-being among teachers. Although TRIOs are established both at primary and secondary levels, it is more common for the primary schools to adopt the practice. As explained by a representative from the Danish National Union of Upper Secondary School Teachers, this is due to work-cultural differences in Denmark between teachers at primary and secondary levels.

The main drivers for OHS management in the education sector in Denmark are the legal requirements that the schools must abide by, as well as the TRIO constellation, which allows for discussions across the different organizational levels at the institution. The main barrier across all three educational levels is time pressure, which may mean that the results of risk assessments may not lead to further actions and improvements in OSH at the workplace.

3.2 Germany

German education system

The German education system has five levels, including the primary, secondary I, secondary II, tertiary and quartal levels (continuing education), where the first three levels make up the schooling system and the latter two refer to further education.

Primary education includes the first four years of schooling, after which pupils are divided depending on their attainment and receive more targeted schooling on secondary I level. These first two levels are mandatory for all children. Depending on the qualifications attained, pupils can then move on to secondary II level institutions, such as gymnasiums with the goal to attain the 'Abitur', or more technical or vocational training institutions that prepare pupils for jobs in specific sectors. *Tertiary* level institutions refer to Universities, Universities of Applied Sciences and similar, to which only pupils meeting the respective minimum requirements have access to. Additionally, German authorities understand any form of further education, reskilling or upskilling later on in life as part of the quartal level of education.

Education is free of charge in public schools, which are known to offer decent quality education. It is therefore only a minority (9%) of pupils that end up visiting private schools that require tuition.[104] Because the German system offers different educational paths and because of the prominence of apprenticeships, tertiary education attainment is comparatively low in Germany.[105]

OSH in a German context

Figure 2 shows some of the key German education sector results from the ESENER 2019 survey. The results suggest that 72% of education establishments in Germany reported to regularly conduct workplace risk assessments in 2019, and 90% reported to have regular or at least occasional discussions about OSH related issues at the top management level, which is slightly below the EU 27 average of 76% and 92%. Conversely, the percentage of education establishments that have action plans for work-related stress in place is far higher in Germany (61%) than across the EU 27 (35%). The

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[104] European Commission. (2021). https://eacea.ec.europa.eu/national-policies/eurydice/content/germany_en
[105] OECD Data. (2020). https://data.oecd.org/eduatt/population-with-tertiary-education.htm

proportion of establishments reporting to have sufficient information on how to include psychosocial risks in risk assessment is similar both on EU 27 level (62%) and in Germany (63%). The data also indicates that having procedures in place that deal with possible cases of threats or assaults by clients or external persons is more common among establishments in Germany (83%) compared to establishments across the EU 27 (70%).

Overall, the data suggests that education establishments in Germany rate average or well across OSH management measures and can be expected to have a more targeted and thus potentially more effective approach to the management and mitigation of work-related stress than most other member states.

Figure 2: German education sector scores on key ESENER 2019 measures
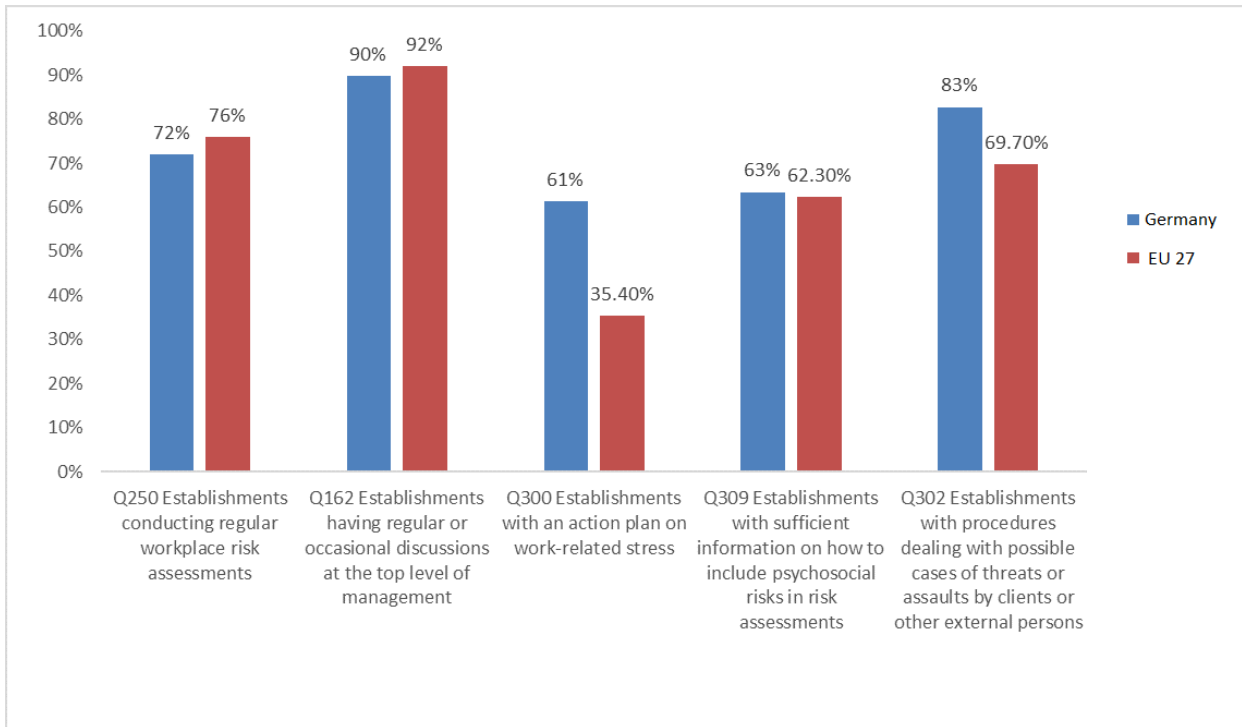
A recent legal and policy mapping survey was conducted for an EU OSHA study (2021) that produced an Overview Report on the European Survey for New and Emerging Risks (ESENER). The survey collected basic feedback, e.g. 'Yes/No' answers, from national OSH authorities to identify national policy characteristics.

The survey results provide some further contextual information that may help to interpret the scores for the education sector on the ESENER 2019 measures, for example:

- Inspectors set a strong focus on psychosocial risk management
- They additionally provide tools and guidance to support the inclusion of psychosocial risks in risk assessments
- There is currently no legislation in place that mandates establishments in Germany to introduce any procedures specifically dealing with difficult or abusive external persons or causes of bullying or harassment, which are all major reasons for work-related stress
- Team leaders and managers are not legally obliged to undertake training on OSH that would help them comply with minimum legal requirements

Therefore, even though establishments may not be legally required to follow action plans to manage certain psychosocial risks, efforts made by inspectorates may be able to raise awareness leading to establishments taking measures to mitigate the causes regardless. This may explain why Germany fares around average or above the EU27 across the selected key measures.

Risks and their sources

The main musculoskeletal risks that have been identified by respondents stem from either prolonged sitting during class preparation or exam corrections or standing when employees face workdays of back-to-back teacher-centered lessons. The lifting and carrying of heavy items is less of a concern, however, it may likely be a risk for elementary level employees (pre-school) as they often have to lift and carry children. The main psychosocial risks identified were pressure and stress, which the interviewees connected to expectations held by society. In secondary and higher education For instance, there is also the risk of violence or the threat of violence by students. The interviews also revealed risks connected to digitalization, such as the increased use of laptops, which goes hand-in-hand with the risk of prolonged sitting as more and more tasks are being shifted towards digital.

OSH Management; drivers and barriers

The interviews overall draw a relatively negative picture of OSH management in the education sector. Respondents across all levels find that more involvement of employees in the identification of risks, design of measures as well as speedier implementation of measures is needed to drive more effective OSH management. In addition, awareness of institutions that offer support in OSH management seems to be relatively low.

This overall low level of awareness of available resources may in part be due to the fact that OSH training is not mandatory. Other barriers to effective OSH management mainly reflect the increasing pressure and workload that teaching staff are experiencing in Germany. In sum, this leads to employees neglecting the identification and prevention of OSH related risks in favour of meeting pupils', families' and society's expectations. In addition, respondents reported that OSH risks are predominantly psychosocial, which is perceived as more complex and harder to address.

In addition, interviewees criticised the fact that usually employees are not involved in the identification of risks, the design of measures and that implementation of measures is too slow. For instance, measures in connection with COVID-19 related risks have yet to be implemented despite extensive efforts of teacher unions and associations.

Furthermore, they highlighted that teacher's profession is increasingly being put under pressure by politics and society and that unattainable expectations cause serious psychosocial issues for employees in the sector, some of which have only been intensified by Covid-19.

3.3 France

French education system

The French education system is organised on three levels, the primary, secondary and tertiary education level. [106] Children enter primary education at the age of six where they stay for five years until they move on the secondary level, which includes 'collège' and 'lycée', where pupils can either attain the 'baccalauréat or the 'Certificat d'aptitude professionnelle'. The former enables pupils to then move on to higher education institutions, whereas the latter provides vocational degrees. The tertiary level refers to higher education that is non-compulsory, such as Universities and similar institutions. On this level both public and private institutions are offered. The private universities, the 'grandes écoles', are perceived as being particular prestigious and significantly more expensive than the publicly funded universities.

OSH in a French context

Figure 3 shows some of the key French education sector results from the ESENER 2019 survey. The data indicates that education establishments in France conduct workplace risk assessments less regularly (46%) and generally discuss OSH issues less often on top management level (81%) than the EU 27 average (76% and 92%). Similarly, fewer French education establishments reported to have action plans on work-related stress in place (27%) compared to the EU 27 average (35.4%). In this context, it is thus maybe not surprising that the data also suggests education establishments in France commonly not having sufficient information on how to include psychosocial risks in risk assessments, which was reported by 64% compared to 37.7% across the EU 27. However, in France a slightly higher

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[106] European Commission. (2020). https://eacea.ec.europa.eu/national-policies/eurydice/content/france_en

proportion of education establishments reported to be using procedures dealing with possible cases of threats or assaults by clients or other external persons.

Figure 3: French education sector scores on key ESENER 2019 measures
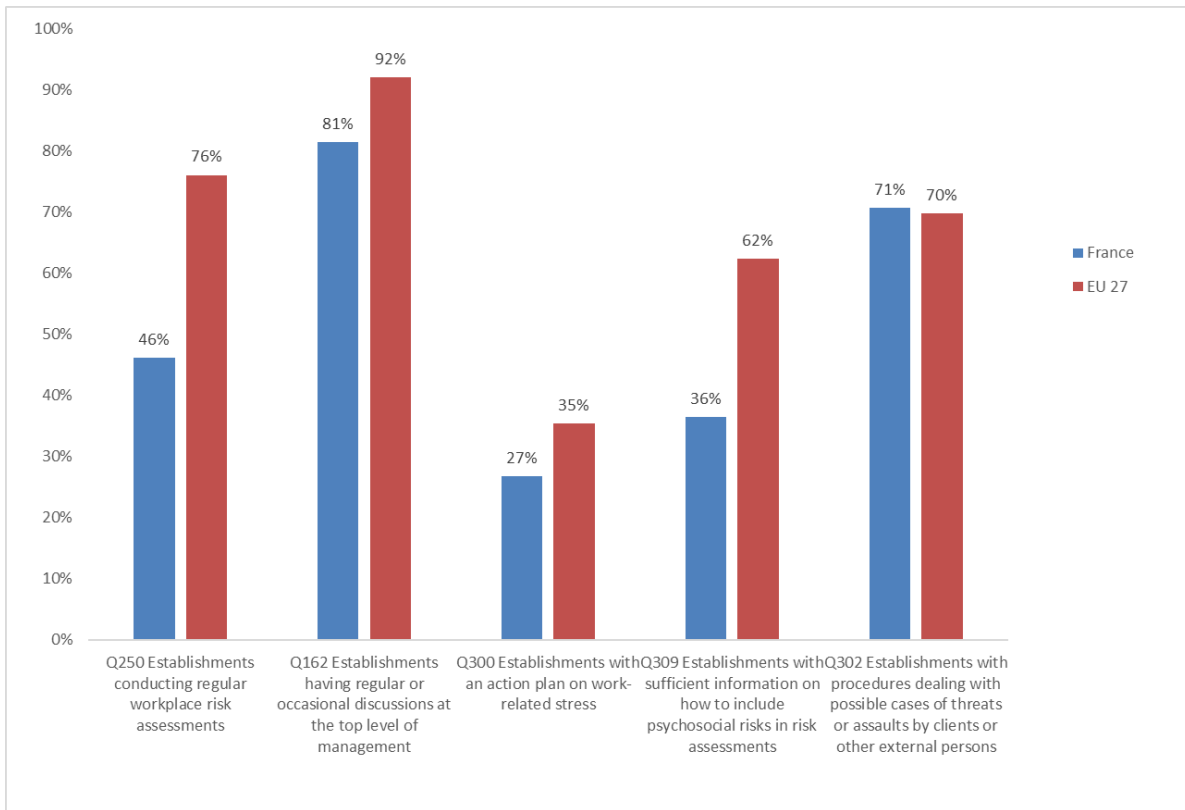
Overall, data indicates that French education establishments may not have incorporated psychosocial risk factors as much in their OSH management approach as is the case in many of their EU counterparts. A recent legal and policy mapping survey was conducted for an EU OSHA study (2021) that produced an Overview Report on the European Survey for New and Emerging Risks (ESENER). The survey collected basic feedback, e.g. 'Yes/No' answers, from national OSH authorities to identify national policy characteristics.

The survey results provide some further contextual information that may help to interpret the scores for the education sector on the ESENER 2019 measures, for example:

- Education establishments generally have good access to free of charge advisory support on OSH compliance from inspectorates and they provide tools and guidance to support the inclusion of psychosocial risks in risk assessments
- During inspections, a great focus is put on how establishments manage psychosocial risks. Nevertheless, there is currently no legislation in place that mandates establishments to adopt procedures to deal with difficult or abusive external persons
- Though some establishments are obliged to introduce procedures to deal with causes of staff bullying or harassment, micro enterprises (fewer than 10 employees) are exempted
- Team leaders and line managers are not obliged to undertake any training on OSH that would help them complying with minimum legal requirements.

Overall, the findings of the legal mapping survey may partly explain French education establishments' relatively low score on the key OSH measures when compared to the EU 27. For instance, the fact that French top managers are less likely to have undergone OSH training may be a reason for OSH discussion being less common among education establishments in France, which may also have a negative impact on managers awareness on OSH generally and psychosocial risk factors in particular.

Risks and their sources

Teachers in primary and secondary education are mostly exposed to psychological risks. First and foremost, the successive reforms of the education system have contributed to a significant increase of teachers' workload, since they are often required to cope with new rules and to change teaching and evaluation methods. At primary level, risks may also arise from the lack of a structured hierarchy which negatively affects the decision-making ability of schools' directors – especially from a financial point of view. Primary level schools' directors are in fact not hierarchical superiors of the schools' teachers, but just colleagues with additional administrative tasks. Although at secondary level the hierarchical relationship within schools is stronger and legally defined, decision-making abilities are often hampered due to a general lack of managerial skills by headmasters – which in turn stems from a lack of training.

Furthermore, the direct and continuous contact with difficult pupils is a potential source of verbal (or even physical) aggression, which in the long run can result in the development of: feelings of inferiority, feelings of personal failure, demotivation and lack of confidence with regards to their ability to educated students, etc. Megatrends (i.e., social and technological) also affect the working condition of teachers. The increasingly frequent domestic violence, use of video games and wide disposal of cruel films on television, generate by mimicry unconscious behaviours in the classroom or playground, reproducing the same aggressive gestures or insults towards classmates or teachers. These issues are likely to be exacerbated within suburban contexts, where students come from diverse social and ethnic backgrounds and are faced with great financial or psychological difficulties.

In primary and secondary education, even parents might constitute a source of risk for teachers. As stated by one interviewee, there are both disproportionate expectations of families about the school whose teaching is supposed to give a future place in society and parents who are often uninvolved and/or critical, which leads teachers to face ever more varied and complex demands in the exercise of their profession. Furthermore, parents can become psychologically violent in certain situations, especially during the evaluation of their children.

Finally, inadequate school management methods have been said to increase the lack of confidence of teachers, which manifests itself through various symptoms such as relational tensions, disinvestment, aggressive or cynical behaviour.

Interviewees representing tertiary education institutions have argued that professionals within the sector face multiple sources of risks too. As explained during one interview, even according to the French National Research and Safety Institute for the Prevention of Occupational Accidents and Diseases (Institut national de recherche et de sécurité, INRS), in light of the multidisciplinary nature of the institutions providing education at tertiary level, and the diversity of the tertiary education professions, physical and psychological risks as well as risks related to digitalisation can be detected.

However, it was also mentioned that the official data of the Ministry of Higher Education and Research – published in 2021 – seem to indicate that musculoskeletal disorders are the main cause of occupational disorders. The figure is up compared to 2019 data and suggest that the COVID-19 pandemic and the consequent teleworking played a significant role in individuals wellbeing.

OSH Management; drivers and barriers

The main driver for OSH management is that both schools and other educational institutions generally want to comply with the law. Like every other enterprise with at least one employee, schools must complete a yearly risk assessment (*Document Unique d'Evaluation des Risques professionnels*, DUER) – which according to interviewees covers all the risks that may be encountered in all levels of education. Therefore, according to Law n. 91-1414/1991[107] risk assessment fall under the responsibility of the employer and is part of the general obligation to ensure the safety and wellbeing of workers. The evaluation is usually structured as follows: identification of risks; classification of risks; proposal of preventive actions. In those establishments with 50+ employees, the assessment of risks is carried out

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[107] Available at: Loi n° 91-1414 du 31 décembre 1991 modifiant le code du travail et le code de la santé publique en vue de favoriser la prévention des risques professionnels et portant transposition de directives européennes relatives à la santé et à la sécurité du travail (1) - Légifrance (legifrance.gouv.fr)

by a committee (*Comité d'hygiène, de sécurité et des conditions de travail*, CHSCT)[108] composed by: the employer; representatives of the employees; the occupational medicine physician (if one); representative of the labour inspection and prevention services of CRAM (*Caisse Régionale d'Assurance Maladie*)[109].

On the other hand, within primary and secondary education in France, the main barrier to OSH management lies in the fact that schools' directors (who are ultimately responsible for safety and security within the establishments) are not trained to carry out risks' evaluations. Despite a general awareness of issues related to risks in the workplace, interviewees have argued that sometimes directors are not even familiar with the DUER. This is in line with the French education sector scores on key ESENER 2019 measures which sees the country lagging 30 percentage points behind EU average in terms of "Establishments conducting regular risks assessments".

Across all three levels of education, the main barriers to OSH management are also represented by a significant lack of financial and human resources. The lack of means to improve working conditions and reduce risks hampers the overall process. The implementation of measures to prevent or reduce risks are in fact subject to the business model of higher education institutions, which can often only deal with the most pressing issues. This, for instance, translates into shortcomings of the occupational medicine system failing to do regular check-ups of school staff. Another barrier identified by interviewees is the lack of training at all levels of the hierarchy due to the little amount of resources and time allocated to it.

As is evident from the five key questions from the ESENER 2019 survey, compared to the average of the EU countries, France scores considerably below EU average. The data gathered through interviews revealed that especially primary and secondary education teachers are struggling with psychological risks. They are mostly stemming from the increased workload as well as the threats of violence faced by teachers. Psychological risks have been exacerbated by the multitude of sectorial reforms launched by the ministers of education and rarely fully implemented. As argued by the interviewees, these reforms often required teachers to cope with new rules and to change teaching and evaluation methods.

In conclusion, the enhancement of OSH management in France should be achieved through the strengthening of rules compliance; the provision of additional financial and human resources to improve key aspects of health and safety at work; the development of (lifelong) trainings for both employers and employees.

3.4 Ireland

Irish education system
The Irish education system consists of three different levels, is compulsory for children above the age of six and offers state funded education on all levels.[110] Most children attend primary school between the ages of four and twelve although it is not compulsory until the age of six. Pupils enter the secondary level at the age of twelve, which they may complete with different types of certificates. Depending on the certificate obtained, students may then visit different educational institutions on tertiary level, including universities, technical institutions, or colleges.

OSH in an Irish context
Figure 4 shows some of the key Irish education sector results from the ESENER 2019 survey. The data shows that the Irish education establishments score above EU 27 average across four out of five key measures. Almost or all establishments reported to conduct regular workplace risk assessments, to have regular or occasional discussions about OSH issues at top management level and to be using procedures dealing with possible cases of threats or assaults by clients or other external persons. While across the EU 27 only 35.4% of education establishments have an action plan in place that deals with work-related stress, it is most establishments in Ireland (56%). The only OSH measure where Ireland scores slightly lower (61%) than the EU 27 average (62.3%) is in terms of whether establishments

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[108] Available at: The Committee on Health, Safety and Working Conditions (CHSCT) - Occupational Health and Safety in Paca (sante-securite-paca.org)
[109] As of 2022, the CHSCT will be replaced by the *Comité Social d'Administration*.
[110] European Commission. (2021). https://eacea.ec.europa.eu/national-policies/eurydice/content/ireland_en

reported to have sufficient information on how to include psychosocial risks in risk assessments. Nevertheless, this lets us expect Irish education establishments to have well-functioning OSH management measures in place that also address possible psychosocial risks.

Figure 4: Irish education sector scores on key ESENER 2019 measures
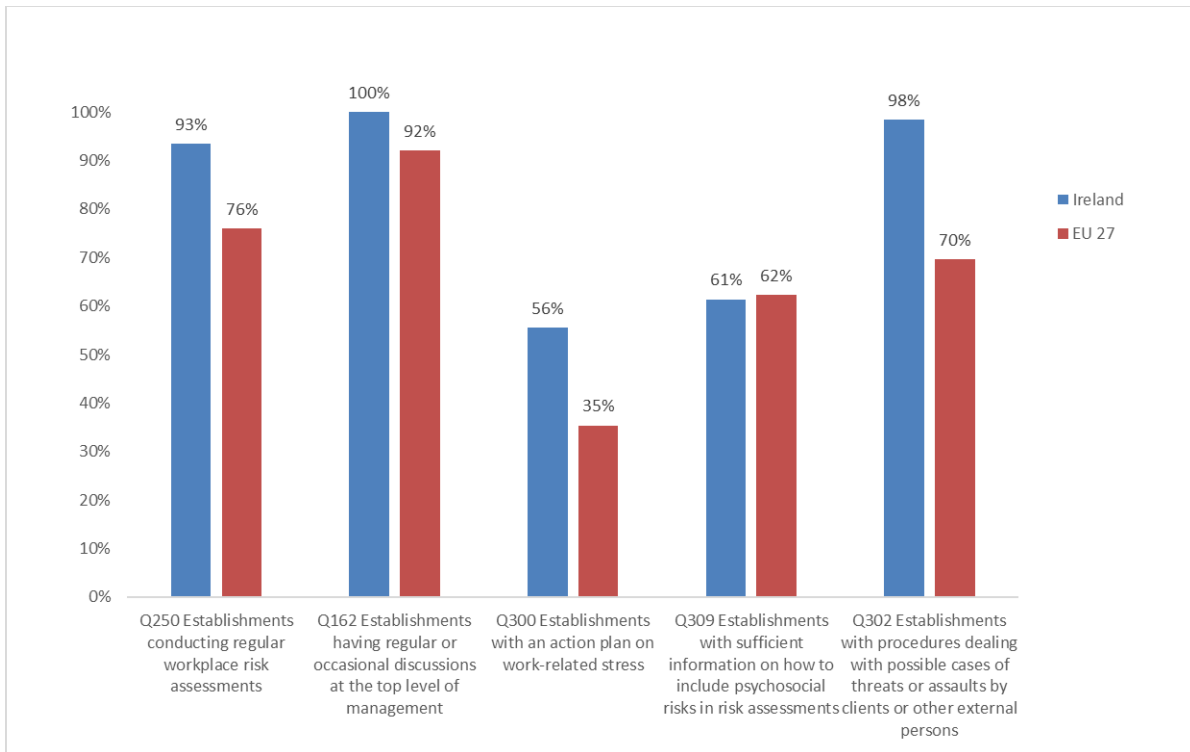
A recent legal and policy mapping survey was conducted for an EU OSHA study (2021) that produced an Overview Report on the European Survey for New and Emerging Risks (ESENER). The survey collected basic feedback, e.g. 'Yes/No' answers, from national OSH authorities to identify national policy characteristics.

The survey results provide some further contextual information that may help to interpret the scores for the education sector on the ESENER 2019 measures, for example:

- Authorities provide online tools for micro, small and medium sized enterprises (MSMEs) to ease completion of risk assessments and inspectorates provide guidance specifically to support the inclusion of psychosocial risks in risk assessments
- All establishments are legally mandated to appoint OSH employee representatives
- Inspections also include assessing establishments' approach towards psychosocial risks
- While all establishments are legally mandated to have procedures in place dealing with cases of bullying or harassment, only large establishments must follow procedures dealing with difficult or abusive external persons.

In sum, the regulatory environment seems to support establishments' OSH management leading to Irish education establishments scoring relatively well compared to the EU 27.

Risks and their sources

In terms of physical risks, employees in secondary and further education are likely exposed to different ergonomic risks in connection to prolonged sitting. Additionally, employees that are handling chemical substances or engage in woodwork because they teach chemistry and crafts, for example, face the risk of chemical injuries, cuts and similar. Moreover, employees may suffer injuries from slips, trips and falls. According to the expert from the Dublin Education and Training Board risks associated with slips, trips and falls may increase over the coming years as many teaching facilities are located in old buildings. As those building require more attention and resources over time to maintain a safe environment for everyone, slips and trips are likely to become an even bigger concern in the future. On primary level,

employees are largely exposed to the same risks. However, they tend to be less exposed to prolonged sitting but instead more likely to be lifting and carrying materials and especially children, which may lead to different types of MSD related risks.

Psychosocial risks that employees in the education sector are typically exposed to are often connected to relationships either with other staff or with pupils. These can range from minor friction between staff, or with pupils, to severe intentional or unintentional physical violence. The latter mainly occurs in Special Education Needs facilities (SEN) on secondary or tertiary level, and often comes from young male adults, whose physical strength may pose a serious danger to staff and other pupils if they engage in violent behaviour.

In addition, the literature pointed out how the number of pupils per class may be a driver of occupational stress. While the study was conducted analysing primary school teachers, the findings may be applicable across levels. Similarly, a study conducted by the Teaching Council and commissioned by the ESRI looked at job satisfaction and occupational stress among primary school teachers and school principals in Ireland. The study finds that teachers teaching multi-grade classes are more stressed and should thus receive more support in coping with these difficulties. The research also highlights the role played by pupils' parents; primary school teachers of pupils whose parents are more involved, are less stressed.

Furthermore, having access to adequate resources contributes towards lower stress levels. Poor administrative support is found to be one of the key psychosocial risks for primary school principals.

Risks associated with digitalization may arise when the use of technology leads to isolation separating people from their working environment and negatively impacts their access to support and backup from colleagues. Other risks may be associated with the improper use of digital tools or unsuitable equipment, which however is taken into account through centralized planning processes and thus mitigated as far as possible.

Respondents see a lack of training as a potential source of OSH risks: Even though trainings are provided, they are voluntary, so the uptake is often a bit slow as principles are faced with many conflicting priorities. In addition, funding is again a restricting factor for training provision.

The COVID pandemic especially increased the risk of isolation and stress, especially for new and young teachers coming on board as they would normally have relied on physical mentoring and support of more experienced staff. Receiving no feedback from pupils during online classes may also be a cause of anxiety and lack of motivation. Regarding teachers' relationships with pupils the pandemic has meant that the lack of interaction and communication has made them loose touch or that they were never able to form a relationship in the first place. Moreover, the risk of contracting COVID as classes resumed in person was and still is a concern, though this has been met with extensive measures to reduce the risk as far as possible (installation of air purifiers, provision of sanitizers and protective equipment etc.).

OSH Management; drivers and barriers
During the COVID pandemic it has become clear that an important driver, especially to address psychosocial risks, are communication channels. If they are set up in such a way that supervisors, management and OSH experts are approachable to employees and that staff can easily be made aware of any other resources available to them, then these channels are an important driver for effective OSH management. In Ireland, employees' access to OSH officers is reported to be well developed prior to the pandemic. In addition, regular online check-in meetings were institutionalized during the COVID pandemic to somehow compensate for the lack of personal interaction at the workplace.

The Irish education sector also has procedures in place dealing with bullying or harassment at the workplace. While cases of harassment are governed by equality legislation, bullying is legally distinct. To manage bullying, many schools have adopted the INTO Working Together document that helps to

establish good relations with internal and external people and puts procedures in place to deal with issues should they arise.[111]

In terms of drivers for the management of physical risks, existing research recommends that continued attention should be given to the design of new facilities and refurbishing older ones.[112] In addition, Medmark4teachers, which is a service operated on behalf of the Department of Education and Skills, provides 'schools and teachers with a well-co-ordinated and managed medical assessment system, a supportive resource, to ensure the health and safety of those at work within the teaching system'.[113]

As respondents pointed out, the lack of well-functioning communication channels is a barrier to OSH management. Furthermore, though the provision of training was identified as contributing positively towards OSH management, the uptake of courses is at times slow because participation is voluntary. In that sense, the lack of a legal requirement to attend such trainings may present as a barrier. However, experts highlight that the reason for slow uptake is not necessarily unawareness or unwillingness but rather that employees are faced with a myriad of conflicting demands. Not being able to meet all these demands to the degree they would like to, may further increase psychosocial risks, such as stress. In addition, training provisions are restricted by the availability of funding and resources, which may be a barrier also when it comes to the provision of new equipment or the proper maintenance of aging buildings and facilities.

The Irish case study exemplifies the importance of clear and effective communication channels to not only make employees aware of the resources and support available to them but also to make supervisors and managers aware of issues they may otherwise have missed. In combination with legal regulations that require establishments to appoint OSH representatives, the Irish model is an overall positive example of OSH management in the education sector and thus scores well above EU27 average on the selected key measures.

3.5 Italy

Irish education system

The Italian education system consists of four levels and is compulsory for people between 6 and 16.[114] The so-called first cycle of education includes the primary level and the first two years of lower secondary education, which starts at age 11 and lasts three years in total. This first cycle is compulsory and ends with a final estate examination. During the second cycle, pupils may either visit the upper secondary school or the regional vocational training for three to five years, of which the first two are non-voluntary in either case. The third level includes universities, higher level arts, music or dance education institutions, higher technical institutions and similar. Depending on the path, only pupils who have acquired the required upper secondary certificates are admitted. The fourth level of education broadly refers to all activities aimed at the cultural enrichment, requalification and professional mobility of adults.

OSH in an Italian context

Figure 5 shows some of the key Italian education sector results from the ESENER 2019 survey. The results suggest that OSH management is quite important to the sector considering that management is committed to discussing OSH at the top level (98%) and over three quarters of establishments complete risks assessments (93%). Furthermore, the confidence in including psychosocial risks in risks assessments is quite high among establishments in Italy (71%). Nonetheless, the introduction of measures is not as extensive (e.g., only half of establishments takes steps to develop action plans to prevent work related stress). Finally, Italy scores significantly below EU27 average (43% vs 70%) when it comes to the implementation of procedures to deal with possible cases of threats or assault by clients or external persons.

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[111] INTO (2000): https://www.into.ie/app/uploads/2019/07/WorkingTogether.pdf
[112] Darmody et al (2010): https://www.into.ie/app/uploads/2019/07/Wellbeing_Classroom.pdf
[113] Medmark (2022): https://www.medmark.ie/teachersna/
[114] European Commission. (2021). https://eacea.ec.europa.eu/national-policies/eurydice/content/italy_en

Figure 5: Italian education sector scores on key ESENER 2019 measures
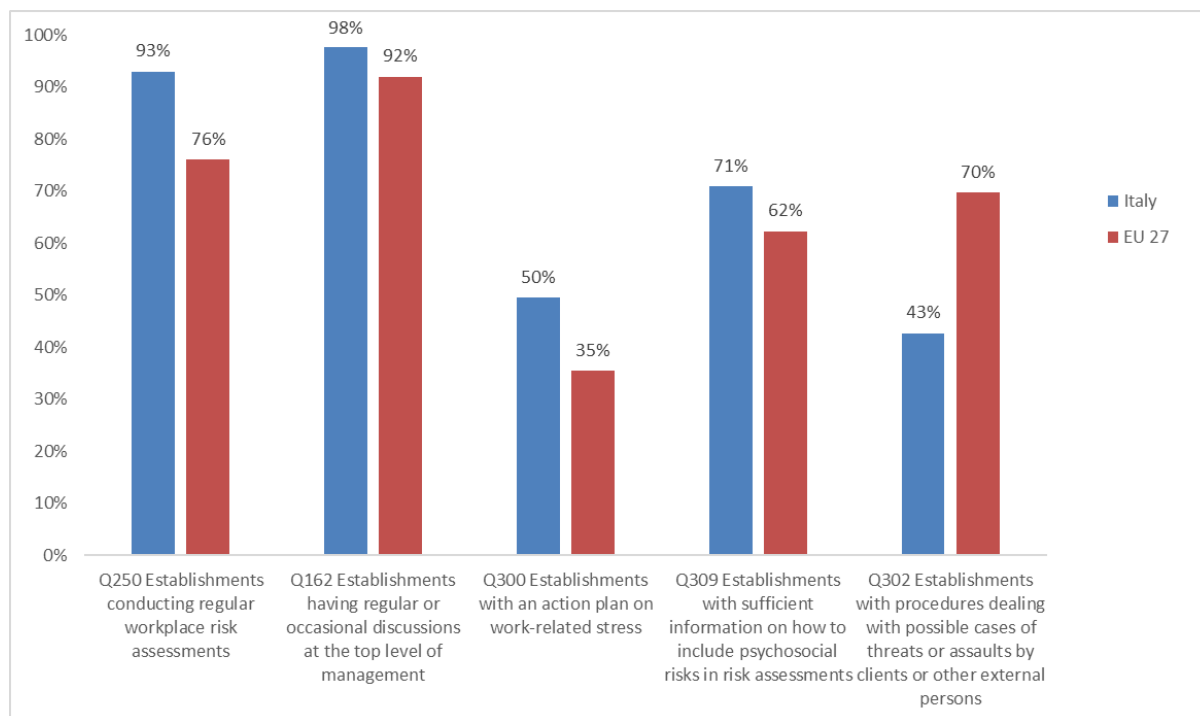
A recent legal and policy mapping survey was conducted for an EU OSHA study (2021) that produced an Overview Report on the European Survey for New and Emerging Risks (ESENER). The survey collected basic feedback, e.g. 'Yes/No' answers, from national OSH authorities to identify national policy characteristics.

The survey results provide some further contextual information that may help to interpret the scores for the education sector on the ESENER 2019 measures, for example:

- OSH authorities provide online tools for micro, small and medium sized enterprises to ease completion of risk assessments
- Inspectorates do not always offer free of charge advisory support on OSH compliance to establishments
- Team leaders and line managers are obliged to undertake training on OSH to comply with minimum legal requirements
- Establishments of all size categories are mandated to appoint OSH employee representatives that are elected by employees themselves
- Establishments across size categories are legally mandated to use procedures for dealing with difficult or abusive external persons as well as cases of staff bullying or harassment
- Inspectorates provide tools and guidance to support the inclusion of psychosocial risks in risk assessments and inspections set strong focus on the inclusion of psychosocial risk management in workplace risk assessments

The Italian regulatory framework thus creates a good legal basis for effective OSH management and may in part explain why Italy has scored above average on multiple indicators.

Risks and their sources

Primary and secondary level: Psychosocial risks were identified as the primary type of risks concerning occupational safety and health within the educational sector. The interviewees agreed that the primary sources of psychosocial risk are high workload and time pressure, and it is common that teachers feel that they do not have enough time (or lack the proper tools) to do their job appropriately. Especially at the primary and secondary levels, the problem is exacerbated by the large size of classes and the growing problem of behavioural disorders among pupils (which have been accentuated during COVID-19 lockdowns).

As identified by the interviews, education and "caring" institutions (such as elementary schools) must deal with risk factors that stem from both the workload and the relational aspect of teaching. The latter does not only refer to the employer-employee relationship but also to the teacher-pupil relationship. The daily interaction with pupils that may have behavioural disorders – and the lack of tools and knowledge to handle such specific situations – is likely to increase the chances of emotional overload or breakdowns for teachers.

However, emotional demands do not impact all the three education levels to the same extent. For instance, OSH risks at the tertiary level differ from the other two levels, namely that lecturers do not experience high emotional demands as an issue. However, besides high workload and time pressure, teachers at this level do struggle with musculoskeletal disorders (MSDs) as a primary risk, caused by prolonged sitting and standing.

Nonetheless, the digitalisation of services was reported to have a less severe impact on workers in the tertiary education for mainly two reasons: 1) in light of their minor emotional involvement with students, they were quicker in adapting to the extensive usage of digital tools (driven by the COVID-19 pandemic); 2) because of their double role as teachers and researchers, the increasing usage of digital tools allowed them to combine more efficiently the two commitments while cutting costs and saving time (e.g., transport).

Digitalization has instead largely impacted staff at primary and secondary levels. Besides the administrative staff (who normally spend about 90% of their working time in front of a screen, handling repetitive tasks, e.g., data-entry), teachers have had to deal since the mid-2010s with the introduction of digital tools such as the digital school register – aimed at automating the record-keeping of pupils' performance electronically and the school-family communication. This added up to a second "digitalization wave" promoted by the launch of the Italian National Plan for Digital Education (Piano Nazionale Scuola Digitale) in 2015 by the Ministry of Education, which, according to interviewees, contributed to the depersonalisation of educational services, and which met a large amount of opposition by the school staff (traditionally old and less prone to learn about and adapt to digital tools). The opposition comes from the perception of the digital tools as a radical distortion of the traditional relationship between teachers and pupils, and teachers and families.

According to all the interviewees, in the mid-term, the provision of the National Recovery and Resilience Plan (PNRR) about the school's class sizes will entail a reduced workload for teachers and will generate more meaningful teacher-pupil relationships.

For the case of tertiary education, interviewees agreed that the risks faced by university professors are not comparable to those faced by primary and primary/secondary teachers. The former, for instance, do not have to deal with the responsibility of managing minors, with the strict compliance with teaching schedules, or with students' families. This in turn makes their work less burdensome from a psychological point of view. Furthermore, university teachers are able to organise independently their class schedules (within the limit of hours defined per each semester) and are not subjected to strict surveillance from their superiors. However, some interviewees argued that female university staff is more likely to be exposed to stressful situations linked to employee-employee relations and workload. Consequently, females in the sector are often more frustrated (due to the perception of stress and the resulting incidence of physical disorders) compared to their male colleagues.

OSH Management; drivers and barriers
The main driver for OSH management is that both schools and other educational institutions generally want to comply with the law. Like every other enterprise with at least one employee, schools must complete a yearly risk assessment. The regulatory reference for OSH management in the workplace is Law Decree 81/2008, which also foresees significant penalties for those who do not comply with it (transgressors face up to 4 months of imprisonment or up to €4,384 fine) . The regulation obliges every enterprise to draw up a Risk Assessment Document (DVR) – i.e., a document that identifies, analyses and evaluates potential risks to workers' health and safety in the workplace. Following the DVR, a detailed prevention and protection plan needs to be implemented with the aim of removing, or at least reducing, the chances of dangerous situations.

The person in charge of the drafting of the DVR is the employer who usually relies on in-house experts in the field of work safety for targeted advice. The DVR is used to assess the probability of occurrence of an event harmful to workers, calculate the extent of the damage that can result and suggest concrete prevention and protection measures. Failure to comply strictly with the regulation may result in significant penalties for the employer, who faces fines for a maximum of EUR 15,000 (in addition to prison sentences).

As emphasized by interviewees, in primary and secondary education legal compliance works as a driver, especially for managers and employers to avoid the risk of sanctions rather than to prevent accidents at work (this is also mirrored in Figure 5, showing that 99% of all respondents from Italy answered that they regularly conduct risk assessments).

According to interviewees, another element that encourages the completion of risk assessment is that the head of the prevention and protection service (the so-called Responsabile del Servizio di Prevenzione e Protezione – RSPP), who works as a main counselor of the headteacher/employer in the field of health and security, is a member of the school's teaching staff (as stated in one of the provisions of Law Decree 81/2008). This means that the RSPP is familiar with the environment under assessment and can provide insightful information towards the enhancement of the workplace.

At primary and secondary education levels, one of the main barriers in addressing and managing OSH is the excessive bureaucratization of the system which affects schools across all departments (e.g., teaching and administrative staff). This in turn affects mainly three areas: 1) workload and autonomy of teachers – who besides their normal activities have to comply with several legal requirements; 2) the supervisor-employee relationship – which in light of the legal obligations is mostly characterized by monitoring and compliance checks; and 3) the sustainability of teachers' working life.

When it comes to the employee-employee relations, bullying and harassment, as well as violence, the main barrier to OSH management is constituted by the degrading school environments (e.g., families who often stand by and support their children even when responsible for serious acts against their peers or teachers), and the progressive lack of authority of educational institutions (especially primary and secondary schools) within civil society.

Finally, an economic barrier has been identified by interviewees concerning access to support in the management of OSH, especially related to psychological risks. For instance, it is often the case that forms of psychological support (e.g., internal psychological services) do not receive regular and significant funding during the school year.

For what concerns tertiary education, no major obstacles seem to be detected. The offices predisposed to the identification and evaluation of occupational risks are regarded as "well-functioning" and more independent from professors than they are in primary/secondary education.

As is evident from the five key questions from the ESENER 2019 survey, compared to the average of the EU countries, Italy scores high. Findings from the legal mapping survey showed that this could be due to the legal requirements in Italy as well as good access to information and help. However, this analysis revealed that mostly primary and secondary education teachers are primarily struggling with psychological risks. These risks have notably been exacerbated by the COVID-19 pandemic and the digitalization of educational services (especially in the primary and secondary education).

The European Agency for Safety and Health at Work (EU-OSHA) contributes to making Europe a safer, healthier and more productive place to work. The Agency researches, develops, and distributes reliable, balanced, and impartial safety and health information and organises pan-European awareness raising campaigns. Set up by the European Union in 1996 and based in Bilbao, Spain, the Agency brings together representatives from the European Commission, Member State governments, employers' and workers' organisations, as well as leading experts in each of the EU-27 Member States and beyond.

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