



Management of psychosocial risks in European workplaces - evidence from the second European survey of enterprises on new and emerging risks (ESENER-2)

European Risk Observatory

Report

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Executive summary

In recent decades, the world of work has gone through some major changes due to globalisation, tertiarisation and technological changes. Potential indirect effects of globalisation may be intensification of work, job insecurity and reduced autonomy. Tertiarisation, i.e. the increase of work in the service sector, resulted in more 'emotional labour' ⁽¹⁾, which is associated with higher risk of violence and harassment. Technological changes may lead to 'techno-stress', which means an individual's anxiety about the ability to use technology effectively or frustration if technology fails. In summary, these changes have increased the exposure of employees to psychosocial risks.

Psychosocial risks that relate to the way work is designed, organised and managed, as well as to the social context of work (EU-OSHA, 2000), may have severe consequences for workers' health and well-being. Research has shown that work-related psychosocial risks and stress may lead to a deterioration in mental health, depression, cardiovascular disease and musculoskeletal disorders. Therefore, appropriate management of these risks is necessary.

Earlier research has identified several drivers of and barriers to psychosocial risk management at the organisational level. It has also been shown that organisational characteristics such as size and sector activities, as well as the national context in which organisations operate, are related to how organisations deal with psychosocial risks.

Large organisations appear to have more measures and procedures in place to deal with psychosocial risks than small and medium-sized enterprises (SMEs) do. That could be because they have larger budgets available for risk prevention and a higher level of knowledge and awareness on the presence of safety and health risks (EU-OSHA, 2010a; EU-OSHA, 2016a; Houtman et al., 2012). There is a strong correlation between sector activities and the reported prevalence of psychosocial risks. The reported prevalence is, for example, relatively high in the education, healthcare and service sectors. However, sectors also differ in terms of psychosocial risk management and the level of support that is available from sectoral organisations in this area. Sectors that put a relatively large amount of effort into managing psychosocial risks are, again, the healthcare sector, the education sector and the financial sector. In sectors such as mining, agriculture and construction, organisations have relatively few procedures and measures in place to deal with psychosocial risks (EU-OSHA, 2010a; EU-OSHA, 2016a).

In addition, the level of psychosocial risk management differs among countries. In general, northern European countries appear to have a more comprehensive approach than eastern European countries (EU-OSHA, 2010a). Nevertheless, research on the specific effects of national contextual factors is scarce, especially on the role of national culture on psychosocial risk management in organisations. In the present study, we have tried to fill this gap by looking deeper into the relation between several contextual factors and psychosocial risk management.

The following research questions are addressed in this study:

1. Is the level of psychosocial risk management related to drivers and barriers at the organisational level?
2. What is the link between national culture and psychosocial risk management?
3. Is cultural context related to drivers of and barriers to psychosocial risk management and is the relationship between drivers and barriers and psychosocial risk management dependent on the cultural context?
4. What are types of organisations in terms of their approach to psychosocial risk management and in reference to factors that are related to psychosocial risk management, taking the context into account?

To answer these questions, we carried out quantitative analyses on data from the second European Survey of Enterprises on New and Emerging Risks (ESENER-2), supplemented with data on the national context: cultural dimensions, gross domestic product (GDP) per capita, and national initiatives with regard to safety and health, in particular with regard to psychosocial risks. Cultural dimensions were based on the work of Hofstede, who studied national cultural values and their influence on

⁽¹⁾ Emotional labour is defined as the process of managing feelings and expressions to fulfill the emotional requirements of a job (Hochschild, 1983).

behaviour and identified several cultural dimensions (Hofstede et al., 2010). Previous research shows that these national cultural dimensions affect organisational cultures and we assume that national cultural dimensions also affect the presence of organisational level drivers of and barriers to psychosocial risk management and the level of psychosocial risk management itself.

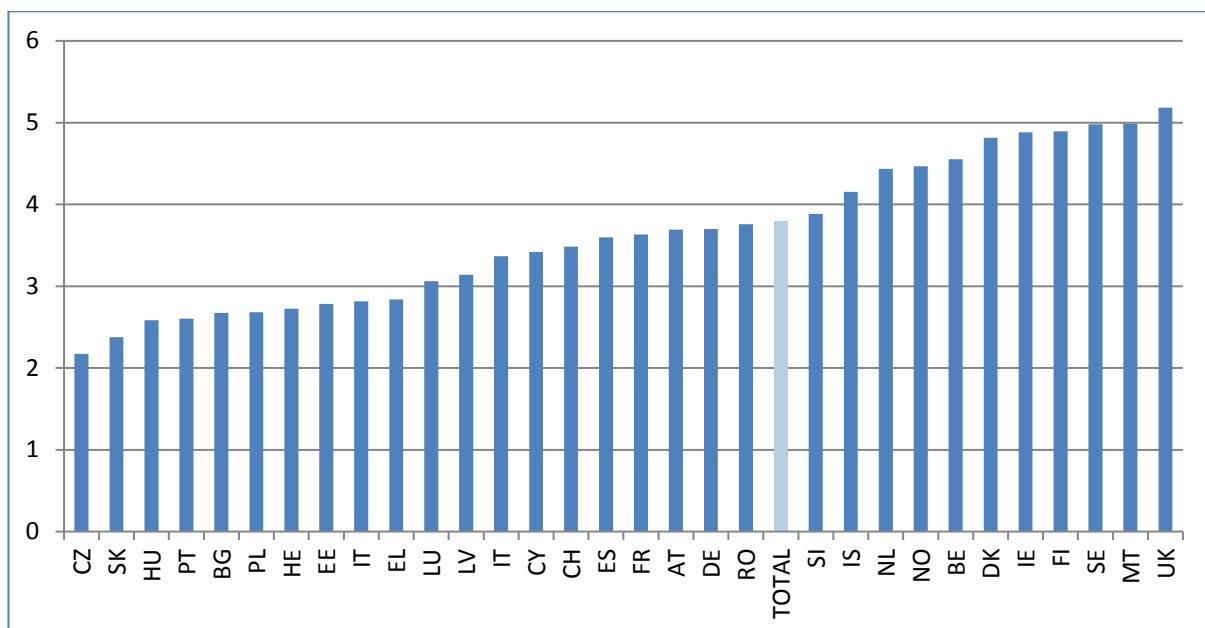
Three dimensions were included in the analysis: power distance, uncertainty avoidance and masculinity. Power distance refers to the level of unequal distribution of power that is acceptable to subordinates and leaders in a society. Uncertainty avoidance refers to the extent to which the members of a culture feel threatened by uncertain or unknown situations. With regard to masculinity, a distinction is made between a preference for achievement, competition and money (masculine) versus a preference for care for others and quality of life (feminine). To represent the level of national initiatives, we included joint efforts of social partners to prevent psychosocial risks in the workplace, and the instruments used in the implementation of the European framework agreement on work-related stress.

The data were analysed using a multilevel model, with adjustments for the influence of country, sector, company size and respondent type. The results of the quantitative analyses were further discussed by a focus group of experts in the field of psychosocial risks from different EU Member States.

Psychosocial risk management and its drivers and barriers at the organisational level

Psychosocial risk management was defined as the number of procedures and measures in place to deal with psychosocial risks. Figure 1 shows the level of psychosocial risk management by country. In general, the northern European countries report a high level of psychosocial risk management, while in the eastern and central European countries this is low.

Figure 1: Psychosocial risk management among EU-28 and EFTA countries (see Annex 1 for country abbreviations).

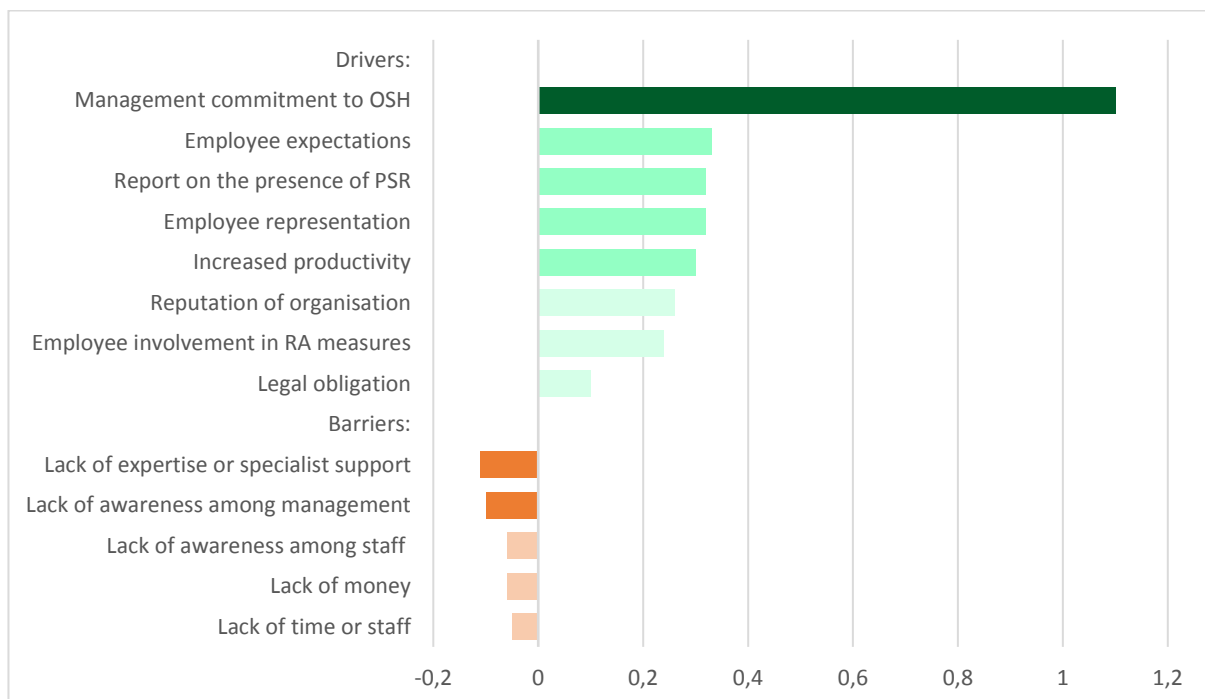


In the analysis, we included drivers and barriers that, in the ESENER questionnaire, were related to general occupational safety and health (OSH) management and not specifically to psychosocial risk management. As previous research has shown, 'good' OSH management is one of the most important drivers of psychosocial risk management, and drivers of psychosocial risk management are to a large extent similar to drivers of general safety and health management (EU-OSHA, 2012b). Figure 2 shows the associations between these drivers and barriers and psychosocial risk management. Darker colours indicate a higher association. Management commitment to OSH in general was identified as the strongest driver of psychosocial risk management. Other drivers that were related to psychosocial risk management were the level at which the organisation reports on the presence of psychosocial risks,

the level at which employees are involved in the design and implementation of measures after a risk assessment, and the presence of employee representation. In addition, the following reasons for addressing safety and health in general were also identified as drivers of psychosocial risk management: 'fulfilling legal obligation', 'meeting expectations from employees', 'maintaining or increasing productivity' and 'maintaining the organisation's reputation'.

The strongest barriers to psychosocial risk management were the lack of awareness among management and the lack of expertise or specialist support to deal with OSH in general. However, these associations were less strong than associations between drivers and psychosocial risk management. No relationship was found between psychosocial risk management and the mentioning of paperwork or the complexity of legal obligations as a difficulty in addressing (general) safety and health in the organisation. Respondents were also asked if some factors made addressing psychosocial risks more difficult than addressing other health risks. However, these potential barriers were not related to psychosocial risk management.

Figure 2: Statistically significant drivers of and barriers to psychosocial risk management at the organisational level (standardised scores)



PSR, psychosocial risk; RA, risk assessment

Influence of the national context

Figure 3 shows the influence of the national context on psychosocial risk management. The association of almost all national context variables with psychosocial risk management was statistically significant with the exception of masculinity. Psychosocial risk management is associated with low power distance, low uncertainty avoidance, a favourable economic situation (high GDP per capita) and national initiatives in the field of psychosocial risks (joint efforts of social partners and measures to implement the EU framework agreement on work-related stress). Note that the relationships between all the national context variables and psychosocial risk management are more or less at the same level, and comparable to the relationships between most drivers at the organisational level and psychosocial risk management. However, the association with the variable 'management commitment to OSH' is much stronger (see Figure 2).

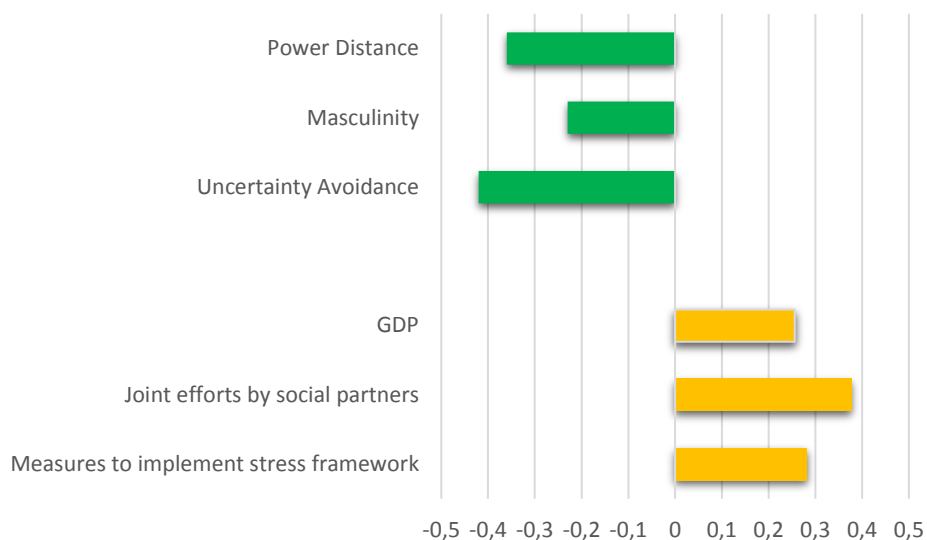
All national context variables were strongly related to each other, with the exception of the cultural dimension masculinity. Joint efforts of social partners and measures to implement the EU framework

agreement on work-related stress are more common in national cultures low on power distance and on uncertainty avoidance and in countries with a high GDP per capita.

In conclusion, all national context variables, including the cultural dimensions power distance and uncertainty avoidance, are related to psychosocial risk management, and all national context variables are related to each other. However, the causality of the relation is not altogether clear in this complicated context. Based on the current research, it is not possible to establish which factor of the national context is the most important for psychosocial risk management.

It is possible that the initiatives in the field of OSH in general, and psychosocial risks in particular, are influenced by both a favourable economic situation and a favourable cultural climate. Several earlier studies have indeed found indications of a relationship between the national culture and the psychosocial work environment (Lok and Crawford, 2003; Chen, 2004; Moncada et al., 2010). Research on the possible impact of the economic situation on national initiatives in the field of OSH and psychosocial risks is lacking, but it is plausible that a poor economic situation may lead to less budget for these initiatives.

Figure 3: Associations between national context variables and psychosocial risk management (standardised scores).



Although the level of psychosocial risk management appears to be related to national cultural dimensions, national culture was not, or only weakly, related to drivers and barriers at company level. This result seems to indicate that the possible impact of culture on psychosocial risk management cannot be explained by the impact of culture on the drivers and barriers we defined in the present study. It is possible that culture has a direct relationship with the way psychosocial risks are dealt with in companies. Also, culture may have an influence on other drivers and barriers, which were not included in the analyses. In addition, the relationship between drivers and barriers and psychosocial risk management does not appear to be dependent on the other national context variables (the economic situation on national initiatives in the field of OSH and psychosocial risks) either. There is, then, no indication that the interventions targeting organisational drivers and barriers (as defined in the present study) should be shaped according to the national context.

Based on the relationships found between the cultural dimensions, the GDP per capita and the national initiatives in the field of psychosocial risks, a distinction has been made between favourable and unfavourable contexts for psychosocial risk management. The favourable context appears to include low PD, low UA, a good economic situation and national initiatives by the social partners that target psychosocial risk management.

Typologies of organisations

Apart from the national context, company characteristics such as size and sector also have their influence on psychosocial risk management. Previous research (EU-OSHA, 2016b) has shown the poorer quality of OSH management in smaller companies and the high level of non-compliance in relation to OSH regulation.

The results of the present study also show that the national context matters in organisations of all sizes, with the exception of small organisations with five to nine employees. These small companies have fewer measures in place to deal with psychosocial risks and have fewer drivers of dealing with safety and health risks, irrespective of the national context.

Concerning the sectors, national context appears to be related to differences in psychosocial risk management in all types of organisations, although in some sectors this relationship is weak. In the agriculture, forestry and fishing sector and the sectors of mining, construction, electricity, trade, transport, and accommodation and food, the low level of psychosocial risk management is observed also in a favourable national context. An explanation for this finding might relate to the large proportion of small organisations in these sectors, which, as concluded earlier, have poorer psychosocial risk management independently of the national context.

In an unfavourable national context, psychosocial risk management is below average in all sectors, with the exception of the education sector and the health and social work sector. In these sectors, we also see that important organisational drivers such as management commitment, employee representation and 'meeting expectations from employees' are more prevalent, including in an unfavourable national context. A possible explanation of the high level of psychosocial risk management and its drivers is the higher level at which the presence of psychosocial risks is reported. On the other hand, this higher-level reporting could also point to a higher awareness of psychosocial risks in this sector.

Practical implications

Several conclusions can be drawn from this study for practice. An important result is that the national context matters: the level of psychosocial risk management was found to be higher in countries with a favourable national context than in countries with an unfavourable national context. This suggests that certain cultural dimensions and the national initiatives are important in shaping the management of psychosocial risks in the workplace. Although the cultural dimensions are hard to change, the national initiatives such as joint actions of social partners, changes in the legal framework, campaigns and sector-specific activities should be strengthened.

It was hypothesised that the importance of (some) organisational drivers of and barriers to psychosocial risk management will also be dependent on the cultural context, which would demand a differentiated approach to stimulate psychosocial risk management. However, the results did not support this hypothesis, suggesting that the importance of certain organisational characteristics is the same independently of the national context. In general, the drivers appear more important than the barriers (which were rather weakly related to the level of psychosocial risk management); in particular, the results showed that:

- Management commitment is the strongest driver of psychosocial risk management.
- Formal employee involvement (in a works council, in a safety and health committee, as trade union representatives or as safety and health representatives) and informal employee involvement (e.g. in design and implementation of measures after a risk assessment) also appear to be drivers of psychosocial risk management.

Actions towards better psychosocial risk management may be taken by employers, employees (representatives), social partners and sector organisations. However, national initiatives are also conceivable. For example, management commitment may be encouraged by awareness campaigns, and employee involvement may be stimulated by legislation.

1 Introduction

In recent decades, the world of work had gone through some major changes due to globalisation, tertiarisation and technological changes. These changes have increased the exposure of employees to psychosocial risks. Since psychosocial risks may have severe consequences on workers' health and well-being, appropriate management of these risks is necessary. The purpose of the present study is to explore drivers of and barriers to psychosocial risk management and the impact of contextual factors on (drivers of and barriers to) psychosocial risk management.

The world of work today

The trends and recent changes in work relate to many aspects of the psychosocial work environment. Three main changes are identified: globalisation, tertiarisation and technological changes (e.g. EU-OSHA, 2007; Houtman et al., 2008; EU-OSHA, 2014a). Globalisation has led to the development of powerful transnational organisations which can exert considerable influence over markets and other firms in their supply chains. This has led to intensification of work and work pressure within the European labour market, mainly because of increasing competition between organisations. Another effect of globalisation is the increased flexibility of the labour market, making employers hesitant to provide permanent contracts. Flexibility suits them but is often found to be associated with increased job insecurity and reduced autonomy at work (e.g. Guest, 2004; Muffels and Wilthagen, 2011; Van den Bossche et al., 2015).

The economic situation in a country may have a determining role in the quality of working conditions, including psychosocial risks, as well. Research shows that organisations invest less in OSH prevention in times of recession or economic bad times (e.g. Houtman and Kraan, 2016). In addition, many national labour inspectorates have faced budget cuts in recent years. Since regulatory pressure is an important factor on OSH management, the consequence is a potential weakening of preventative OSH systems (e.g. EU-OSHA, 2014a; Houtman et al., 2017).

Tertiarisation, i.e. the increase of the service sector, is related to an increasing demand for workers to perform 'emotional labour'. Emotional labour is defined as the process of managing feelings and expressions to fulfil the emotional requirements of a job (Hochschild, 1983). Emotional labour refers to the situation where workers may have to control their own emotions in interaction with service users (customer, clients, patients, etc.), and have to deal with difficult, sometimes aggressive, customers. An illustration of this is the relatively high prevalence of third party violence in the Netherlands, which is mainly restricted to service sector employees (Houtman et al., in press). Ultimately this may lead to burnout and stress.

Technological change, in particular developments in the use of information and communication technology (ICT), comes with beneficial impacts as well as risks. An example of a favourable effect is the potential to support workers in being flexible, for instance by enabling them to work from home to combine work with other aspects of life more effectively. One of the negative consequences is the phenomenon called 'techno-stress'. This is defined as 'a negative experience composed of high levels of anxiety and fatigue, scepticism and inefficacy in relation to the use of technology' (Salanova, 2013). Techno-stress may refer to an individual's anxiety about the ability to use technology effectively or to frustrations with failing technology. It may also refer to perceptions of job insecurity due to technological change. In addition, ICT may reduce social interaction and create feelings of isolation (Dewe and Kompier, 2008). Another threat of ICT relates to work-life balance. ICT has the potential to enable a 24/7 economy, which could lead to excessive working hours and insufficient time for people to relax (EU-OSHA, 2014a).

In summary, these changes in the world of work have a major impact on the psychosocial work environment and cause an increase in the exposure of employees to psychosocial risks at work.

Consequences of psychosocial risks

Psychosocial risks at work may have severe consequences for the worker. In general, these risks have a detrimental impact on workers' mental health (e.g. Fernandes and Pereira, 2016). More specifically, literature studies confirm relationships between psychosocial risks at work and (major) depression as well as less severe common mental disorders (e.g. Kuoppala et al., 2008; Rugulies, Aust and Madsen, 2017). However, other health outcomes are also related to psychosocial risks. Studies show, for

example, causal impacts of psychosocial risks at work on cardiovascular disease (e.g. Kivimäki et al., 2012; Kivimäki and Kawachi, 2015; Dragano et al., 2017) and on musculoskeletal disorders (e.g. Chen et al., 2005; Bongers et al., 2006; da Costa and Viera, 2010).

Besides the impact on health, psychosocial risks are linked to workers' participation in work. One study based on data from a large study on Dutch employees shows that workers exposed to unfavourable psychosocial factors at work were less often willing to continue working until their retirement age (Geuskens et al., 2012). Moreover, several studies found that psychosocial factors contributed to actual retirement, in particular disability retirement (Canivet et al., 2013; Knardahl et al., 2017).

The severity of the consequences of psychosocial risks is also associated with high costs. A review by EU-OSHA concluded that the financial burden on organisations and society related to stress and psychosocial risks is considerable (EU-OSHA, 2014b).

How to deal with psychosocial risks?

The increase in the prevalence of psychosocial risks, the associated health problems and associated costs increase the necessity of psychosocial risk management. Therefore, since the introduction of the Framework Directive on Safety and Health of Workers at Work in 1989, many initiatives have been undertaken to deal with psychosocial risk factors in European workplaces, including interventions by the social partners, new legislation introduced in some EU Member States and developing general guidelines to deal with this topic (EU-OSHA, 2016a). Despite the growing attention to psychosocial risks, prevalence is still high. In Europe, 25 % of workers say they experience work-related stress for all or most of their working time (Eurofound and EU-OSHA, 2014). Nearly 80 % of establishments in the EU-28 identify at least one psychosocial risk factor as being present in their workplaces (EU-OSHA, 2016a).

Different approaches exist to deal with psychosocial risks at the organisational level. A distinction can be made between organisational and individual orientations: organisational interventions are focused more on prevention (Leka et al., 2011). Ideally, psychosocial risk management is aimed at prevention, elimination or reduction of psychosocial risks and should be a systematic, continuous process of identification, analysis and management of work-related risks (Leka and Cox, 2008; EU-OSHA, 2012a). Good psychosocial risk management in organisations is embedded within the policies (e.g. action plan to deal with work-related stress, bullying or harassment, or violence), structures and practices of the organisation (e.g. measures to reduce psychosocial risks such as reorganisation of the work, counselling, conflict resolution) (Leka and Cox, 2008).

Earlier research has identified several drivers of and barriers to psychosocial risk management at the organisational level. The secondary analysis of ESENER-1 showed that high-quality general OSH management in the organisation is one of the main drivers of psychosocial risk management. Moreover, ESENER-1 revealed that 42 % of managers consider it more difficult to tackle psychosocial risks than other safety and health issues, while lack of technical support or guidance was identified as the strongest barrier (EU-OSHA, 2012b).

Psychosocial risk management in its context

How organisations deal with psychosocial risks may differ with regard to the context in which organisations operate. Organisations have different sizes, belong to different types of sectors and are located in different countries. All these context variables may affect psychosocial risk management.

Substantial differences have been found between company sizes and sectors. In general, research shows that larger organisations have a higher quality of general OSH management. This is related to the availability of budgets for OSH management and the available expertise, but also to employee participation (EU-OSHA, 2010a; EU-OSHA, 2016a). Sector differences are also found. Sectors that put a relatively large amount of effort in managing psychosocial risks are the healthcare sector, the education sector and the financial sector. In the mining sector and the agricultural sector, organisations have relatively few procedures and measures in place (EU-OSHA, 2010a; EU-OSHA, 2016a).

In addition, country differences are found. European countries appear to differ in the procedures and measures in place to manage psychosocial risks. In general, northern European countries appear to have a more comprehensive approach to psychosocial risk management than eastern European countries (EU-OSHA, 2010a). Recently, joint analyses of three important and large-scale European

surveys have shown that the country level is particularly important in explaining the relationship between psychosocial risks at work and psychosocial risk management (EU-OSHA, 2017).

Several national factors may explain country differences in psychosocial risk management at the organisational level.

Countries vary in the amount of attention that is given at national level to managing psychosocial risks, translated into the number of national initiatives and policy measures that are taken to reduce psychosocial risks. Countries differ in their GDP, which could be related to the financial budgets that organisations have available to manage psychosocial risks, and whether or not managing psychosocial risk is seen as a priority issue. In addition, country differences may be related to the cultural background. European countries differ substantially on several cultural dimensions that might have an impact on organisational practices (Hofstede, 2003), and may very well affect the efforts that organisations put into psychosocial risk management.

For a better understanding of psychosocial risk management, these contextual factors should be considered. However, research on the specific effects of these national contextual factors is scarce, especially on the role of national culture on psychosocial risk management in organisations. In this report, we try to fill this gap by looking deeper into the relation between national contextual factors and psychosocial risk management. We study the relation between different contextual factors, organisational-level drivers and barriers, and psychosocial risk management.

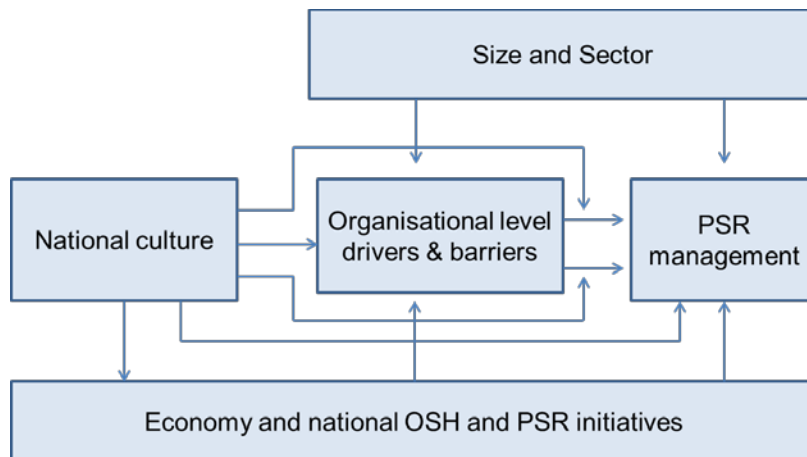
Structure of the report

This report describes in-depth multilevel analyses that are performed on data from the second European Survey of Enterprises on New and Emerging Risks (ESENER-2). Data were complemented with the results of a focus group meeting with relevant experts on psychosocial risks from different European countries. The next chapter (Chapter 2) describes the theoretical framework that was used as a rationale and background for the analyses. Based on this framework, research questions and hypotheses were formulated that guided the analyses. Chapter 3 gives a detailed description of the methodology of the analyses. Chapter 4 presents the results of the quantitative analyses and of the focus group meeting. This report ends with conclusions and discussion of the results (Chapter 5).

2 Theoretical framework

In the previous chapter, we argued that, for a better understanding of psychosocial risk management, the context should be considered. Examples of contextual factors are company size and sector, but also the national context, in particular the economic situation, national initiatives in the field of occupational health and psychosocial risks, and the national culture. Figure 4 illustrates this line of thought, and will be used as a theoretical framework to guide the analysis. This theoretical framework is based on several assumptions. The theoretical background of these assumptions is described in section 2.1, and section 2.2 goes into the research questions and hypotheses of this study.

Figure 4: Theoretical framework of drivers of and barriers to psychosocial risk management.



2.1 Theoretical background of the framework

The theoretical framework is based on four main assumptions:

- A. The level of psychosocial risk management is affected by drivers and barriers at the organisational level.
- B. Organisational drivers and barriers and psychosocial risk management are influenced by national culture.
- C. Company size and sector affect the drivers and barriers at the organisational level, as well as psychosocial risk management directly.
- D. The economic situation in a country, and national occupational safety and health and psychosocial risk management initiatives, will influence psychosocial risk management, as well as organisational-level drivers and barriers.

In this section, we discuss the theoretical background of the assumptions.

2.1.1 ***Assumption A: The level of psychosocial risk management is related to drivers and barriers at the organisational level***

We assume that several factors within an organisation could be either favourable (drivers) or unfavourable (barriers) for the management of psychosocial risks. This assumption is based on the results of several studies. Below, we summarise these results.

Drivers of psychosocial risk management

Organisations can have different motives for managing psychosocial risks. 'Extrinsically' driven motives for taking action on psychosocial risk management pointed out in previous studies are reduction of sickness absence, prevention of turnover and accidents, and increasing the commitment and productivity of employees (Bond, Flaxman and Loivette, 2006; Bevan, 2010). In addition, client

requirements and maintenance of the organisation's good reputation appear to be important extrinsic motivators for organisations to manage psychosocial risks (EU-OSHA, 2012b). Interestingly, some of the drivers often indicated by managers as motives for psychosocial risk management (e.g. legal obligations, pressure from labour inspectorate), appear not to be strong predictors of the *amount of effort* that organisations make in practice (EU-OSHA, 2012b). It could be that external pressure on employers (e.g. legal obligations, pressure from labour inspectorate) does stimulate employers to take action, but, when intrinsic motivation for organisations to engage in psychosocial risk management is lacking, the efforts are minimal. Awareness of the presence of psychosocial risks, and recognition of the potential negative consequences, could intrinsically motivate employers to manage psychosocial risks. In this sense, awareness can be considered the first step to psychosocial risk management. Organisations have to acknowledge the existence of psychosocial issues in the organisation and recognise the necessity of dealing with them first before they take action. Therefore, level of awareness and acknowledgement of psychosocial problems is an important driver of psychosocial risk management (Iavicoli et al., 2004).

Next to the extrinsic or intrinsic motives to manage psychosocial risks, several other drivers can be identified that positively influence psychosocial risk management. Psychosocial risk management can be seen as an organisational change process. To make psychosocial risk management part of the continuing policy cycle of the organisation, several factors play an important facilitating role. These drivers can more or less be seen as preconditions or facilitators of psychosocial risk management and are related to facilitating the implementation process of measures and policies. An important driver in this respect is management support. In the scientific literature, there is general agreement that management support is of vital importance to successfully implement organisational health interventions (e.g. Lindquist and Cooper, 1999; Dollard and Bakker, 2010; Nielsen et al., 2010; Westgaard and Winkel, 2011). Management support, or in this case management commitment to safety and health issues, appears to be an important factor for psychosocial risk management according to the secondary analysis of ESENER-1 as well (EU-OSHA, 2012b). Another very important driver of preventing psychosocial and general OSH risks is involvement of employees (e.g. Westgaard & Winkel, 2011). Employees have expert knowledge of their environment, and including them in managing psychosocial risks makes this knowledge accessible (Nielsen et al., 2010). To successfully implement psychosocial risk management programmes, employees' readiness for changes (closely linked to the organisational culture) also appears to be an important factor (Dollard and Bakker, 2010). In addition, a review by Westgaard and Winkel (2011) also stresses the importance of clear and transparent communication and procedural justice, as they favourably influence the effect of measures on musculoskeletal and mental health outcomes. A review by Fleuren, Wiefferink and Paulussen (2004) identified 49 determinants that can facilitate (or impede) the implementation of innovation processes, of which 11 determinants were related to the organisation (e.g. bottom-up or top-down decision-making processes, relationships between departments, available expertise).

Barriers to psychosocial risk management

Barriers to psychosocial risk management have been identified as well. Secondary analyses on ESENER-1 data show that a lack of technical support and guidance and a lack of resources are among the most important barriers (EU-OSHA, 2012b). Interestingly, there appears to be a difference between the main barriers for organisations that have limited measures in place to manage psychosocial risks and for organisations that have more measures. For example, a lack of technical support or guidance appears to be an important barrier for organisations taking limited measures, whereas the sensitivity of the issue and lack of resources appear to be important barriers for organisations that have more measures in place to deal with psychosocial risks. This suggests that the importance of particular barriers hampering psychosocial risk management may depend on the level of involvement in this process (EU-OSHA, 2012b).

2.1.2 Assumption B: Organisational drivers and barriers and psychosocial risk management are related to national culture

A lot of research has been done on differences between national cultures (Kluckhohn and Strodtbeck, 1961; Hall, 1976; Ronen and Shenkar, 1985; Schwartz, 1994; Trompenaars and Hampden-Turner, 1998; Hofstede, 2003; Carbaugh, 2007). The most commonly cited and used model on national culture

is the model of Hofstede, Hofstede and Minkov (2010), which describes cultural dimensions at the national level (the Hofstede culture framework and three national cultural dimensions of relevance to the present study are explained in the box on 'National culture framework of Hofstede'). Previous research shows that these national cultural dimensions affect organisational cultures, and we assume that national cultural dimensions also affect the presence of organisational-level drivers of and barriers to psychosocial risk management and the level of psychosocial risk management itself. This assumption is based on the results of other studies performed in the past. Below, we summarise the results.

National culture framework of Hofstede

Hofstede defines culture as 'the collective programming of the mind which distinguishes the members of one human group from another' (Hofstede, 1980, p. 21). Culture in this definition includes systems of values. Hofstede defines values as 'a broad tendency to prefer certain states of affairs over others' (Hofstede, 1980, p. 18).

His study identifies four main cultural dimensions: power distance, uncertainty avoidance, individualism and masculinity. The four dimensions were empirically found and validated, and each country can be positioned on a scale of the dimension. One of the four basic value dimensions is individualism (in low-individualism countries, employees are morally involved with their employer). Because there is little variance in the scores between European countries (in general, highly individualistic), this dimension will not be used in the analyses for the present study.

Power distance (PD)

Countries with a high score on the PD index are characterised by Hofstede, Hofstede and Minkov (2010) as countries in which people (employees and management) generally prefer managers who take the initiative. A good manager is a manager who gives instructions. In these countries, employees are more afraid to disagree with their managers. The preferred decision-making style in organisations is autocratic: the manager is the one who decides what has to be done.

Countries with a low score on PD are characterised as countries in which people generally prefer managers who consult their employees first before making decisions. In these countries, managers and employees discuss matters, and employees are less afraid to disagree with their managers. The input of employees is valued. Informal participation and consultation of employees is common in organisations.

Uncertainty avoidance (UA)

Countries with a high score on UA are characterised by Hofstede, Hofstede and Minkov (2010) as countries where there is a low tolerance for uncertainty. On average, there is a higher level of anxiety and stress in these countries. People in these countries seek stability. Employees are more resistant to change and they have a tendency to stay with the same employer. In these countries, there is a preference for clear requirements and instructions. Instructions should be given by experts. Rules should not be broken. Fear of failure guides decisions.

Countries with a low score on uncertainty avoidance are characterised as countries where there is a high tolerance for uncertainty. Employees in these countries are less loyal to employers, and switch more easily from employer to employer than employees in high-UA countries. There is a preference for broad guidelines, and rules may be broken for pragmatic reasons.

Masculinity (versus femininity) (MAS)

High-MAS countries are characterised by Hofstede, Hofstede and Minkov (2010) as countries where earnings, recognition, advancement, achievements and competition are important. Work has a central place in people's lives. Achievements are defined in terms of recognition and wealth. Employees prefer more salary over shorter working hours, and it is accepted when an organisation interferes with employees' private lives.

Feminine countries are characterised as countries where quality of life, human contacts, a friendly atmosphere, living in a desirable environment and social accomplishments are important. Achievements are defined in these terms. Employees prefer shorter working hours over more salary and it is not acceptable for a company organisation to interfere in an employee's private life.

Several researchers have found evidence of the relationship between national culture and organisational culture, workplace behaviours, attitudes and other organisational outcomes. Based on analyses of cultural, historical and fieldwork contexts, Redding (1990) argues that employees' expectations, behaviour and performance in organisations differ between national cultures. Research by Lok and Crawford (2004) also shows that different national cultures are related to different values in the workplace. They found, for example, that in firms in collectivistic countries (countries that emphasise interests of the community instead of individuals) in contrast to Western individualistic countries (countries that emphasise the interests of individuals instead of the community), empowerment and participation of employees is considered less important. Another example of how national cultural values influence organisational outcomes comes from Chen (2004), linking leadership styles in organisations to differences in national culture. In cultures with low power distance (PD) (see explanation in the box; e.g. the United Kingdom), transformational leadership (aimed at empowerment of employees and providing a clear vision) is more common, whereas in cultures with high PD (e.g. China) leadership is more often based on seniority and authority.

Our assumption is also supported by Taras, Steel and Kirkman (2011), who after 30 years of research on national culture in the workplace concluded that national culture is an important predictor of attitudes and behaviours at work. In their research, they found examples of cultural preferences in relation to different aspects of work, such as work design and leadership style, which are highly related to the presence of psychosocial risks in an organisation. For example, workers in individualistic low PD cultures tend to prefer participative leadership and work designs that allow personal autonomy and participation in decision making, whereas workers in collectivistic high PD cultures prefer direct and charismatic leadership, and work designs with structured roles and clear directions and instructions.

In their research, Peters and den Dulk (2003) found cross-cultural differences in managers' support for home-based teleworking. They found that countries that score low on PD and uncertainty avoidance (UA) tend to implement teleworking, while those high on PD and UA do not. Moncada et al. (2010) also found support for the idea that national cultures explain differences in the psychosocial work environment between countries. They studied the psychosocial work environment and its associations with socioeconomic status (SES) in Denmark and Spain. The results show that SES is related to the psychosocial work environment in the sense that lower SES groups appear to have a more adverse psychosocial work environment. Interestingly, this effect is modified by country characteristics. According to the authors, differences in economic and labour market structure, normative regulations and industrial relations between Denmark and Spain are partly the reason for the relationship between SES and country characteristics. Moncada et al. (2010) link their results to Hofstede's study on cultural differences between countries, stating that the lower scores of Denmark on PD, UA and masculinity in comparison with Spain might explain the different relationships between SES and the psychosocial work environment. Denmark and Spain differ in several ways regarding organisational culture (Hofstede, 2001). Denmark's scores on PD are the second lowest in Europe, while Spain had one of the highest scores. Thus, high PD scores, indicating a hierarchical organisational culture, are associated with a less positive psychosocial work environment for employees with lower SES. In contrast, the Danish labour market is based on low PD, which may improve the psychosocial work environment even when SES is low.

The same cultural values can have different meanings in different countries. Wong and Goodwin (2009) provide an example regarding levels of work-home interface. They found that workers living in individualistic cultures, meaning that independence and intimacy in close relationships are important, are sensitive to time pressure and want to finish their work on time so they can go home to their families. On the other hand, people who live in more collectivistic cultures perceive work dedication as an expression of care for their family members, so overtime and long working hours are perceived as positive towards the family. Another role of culture is shown by Lu et al. (2009) on samples from Taiwan and the United Kingdom. In this study, predictors and associations with work-home conflict differ between the two cultural contexts. Taiwan is a country with high PD and here supervisory emotional support prevents work-home conflict more than in the United Kingdom, a country with a low score on the PD dimension (Lu et al., 2009). The study by Wong and Goodwin (2009) shows how the same characteristic of work, in this case overtime and long working hours, is perceived differently regarding work-home conflict in individualistic versus collectivistic cultures. The study by Lu et al. (2009) shows that cultural values may determine what is important in particular organisational situations.

In summary, several studies have found a relationship between the national culture of the organisation and its psychosocial work environment. Results of these studies may also imply that stimulating organisations to engage in psychosocial risk management may require different policies in different national contexts.

2.1.3 Assumption C: Company size and sector are related to the drivers and barriers at the organisational level, as well as to psychosocial risk management directly

Previous research has shown differences based on company size and sector in relation to psychosocial risk management. In general, research shows that larger organisations have a higher quality of general OSH management. Houtman et al. (2012) studied why employers do not take measures to prevent safety and health risks despite the fact that they are proven to be effective. Their study suggests that barriers to OSH management, such as lack of resources and lack of information, are more likely to be present or have an effect in smaller organisations. The review by Walters and Wadsworth (EU-OSHA, 2016b) also points out the poorer level of safety and health in small organisations than in larger ones. Not only are health risks more prevalent in smaller organisations, but non-compliance with OSH regulation is also relatively high (EU-OSHA, 2016b). Walters and Wadsworth (EU-OSHA, 2016b) and Houtman et al. (2012) identified several reasons for poor OSH management in micro and small enterprises (MSEs). For one thing, the weak economic position of many MSEs and the primary concern for the economic survival of the business will result in OSH management often not being considered a top priority. Another reason for poor OSH management in MSEs is the lack of knowledge, awareness and ability of managers and owners to deal with OSH issues (Houtman et al., 2012; EU-OSHA, 2016b).

As shown earlier, OSH management and psychosocial risk management are closely related. Analysis of ESENER-2 data shows that results for psychosocial risk management are similar to those for OSH management in general: smaller organisations have fewer measures in place to deal with psychosocial risks (EU-OSHA, 2016a).

Results of the ESENER data analysis also show differences between sectors in psychosocial risk management. Sectors that put considerable effort into managing psychosocial risks are the healthcare, education and financial sectors. In the mining, agricultural and manufacturing sectors, organisations have relatively few procedures and measures in place (EU-OSHA, 2010a; EU-OSHA, 2016a).

2.1.4 Assumption D: The economic situation in a country, and national occupational safety and health and psychosocial risk initiatives, are related to psychosocial risk management, as well as to organisational drivers and barriers

We assume that the economic situation in a country will be related to psychosocial risk management at organisational level through the financial budgets that organisations have available to manage psychosocial risks, and the way that managing psychosocial risk is seen as a priority issue. Several studies support this assumption.

In developed countries, research has shown the negative effects of the economic crisis on psychosocial risk management. For one thing, psychosocial risks are higher during an economic crisis. Houdmont, Kerr and Adley (2012) showed the negative effects of the economic crisis on exposure to psychosocial risk and prevalence of work-related stress. In their study, they found that psychosocial hazard exposure (e.g. excessive demands, lack of control, lack of peer support) and perceived work-related stress in the Northern Ireland Civil Service were worse during the recession than after. In addition, several studies showed the negative impact of restructuring, which is common during an economic crisis, on employee well-being and stress (Kieselbach et al., 2009; Wiezer et al., 2011; de Jong et al., 2016). Although this research suggests that focusing on psychosocial risk management during a restructuring process could improve the chances for organisations to survive a crisis, psychosocial risk management seems not to be the focus of managers in times of crisis.

Kortum, Leka and Cox (2010) explored experts' perceptions of psychosocial risks and work-related stress in developing countries. They concluded that experts in these countries have a good understanding of psychosocial risks, but socioeconomic conditions (e.g. poverty and economic insecurity) negatively affect the level of psychosocial risk management within organisations.

We also assume that national initiatives will affect psychosocial risk management in organisations. Several types of national (policy) initiatives aimed at psychosocial risks can be found in Europe. In the PRIMA-EF project ⁽²⁾ (Leka and Cox, 2008) they were classified as (i) legislation/policy development, (ii) standards at national/stakeholder levels, (iii) stakeholder/collective agreements, (iv) declaration signing, (v) international organisation action, (vi) social dialogue initiatives, (vii) national strategy development, (viii) development of guidelines, (ix) economic incentives/programmes and (x) establishing networks/partnerships (Leka et al., 2011). Unfortunately, research on the effectiveness of policy initiatives is scarce. Below, we describe examples of policy initiatives that seem to support our assumption. However, their focus is mainly on OSH management in general, and not specifically on psychosocial risk management.

In several European countries, external economic incentives are implemented as a policy instrument to promote occupational safety and health in organisations. In 2010, Elsler et al. reviewed 14 incentive schemes implemented in different European countries. A commonly used type of incentive scheme is insurance-based incentive schemes, in which the size of the incentive is often a percentage of the insurance premium, with a bonus-malus system in relation to the occurrence of, for example, occupational accidents. Another type of incentive scheme is subsidy incentive schemes. The type of subsidy varies considerably between countries. For example, Poland supports SMEs in OSH management through capacity building and a preventative culture, while Denmark supports the prevention of early retirement of workers. This review of case studies showed that economic incentives schemes were reasonably effective to stimulate organisations to invest in OSH management (Elsler et al., 2010).

The following example was included in the review mentioned above and classified as a subsidy-related incentive scheme: the work and health covenants in the Netherlands (from 1998 to 2007). The covenants policy implies a sectoral approach to OSH management, encouraged and subsidised by the Ministry of Social Affairs and Employment. The covenants were drawn up between representatives of the government, trade unions and employers' organisations, and were aimed at specific work-related health risks including psychosocial risks. In general, they have been proven to be successful in reducing sickness absence and associated costs (Veerman et al., 2007). The effectiveness of the covenants differed between sectors, as a result of large variations in the quality of the sector initiatives (Taris, Van der Wal and Kompier, 2010). Houtman et al. (2005) found a reduction in the risk of work-related stress within the police force, one of the target sectors. The overall conclusion of the different evaluations of the covenants was that the policy was successful, since sectors that were included in the policy had more measures in place to deal with safety and health risks (including psychosocial risks) than sectors not included (Blatter et al., 2007).

2.2 Research questions and hypotheses

The research questions that we addressed in the present study are:

1. Is the level of psychosocial risk management related to drivers and barriers at the organisational level?
2. What is the link between national culture and psychosocial risk management?
3. Is cultural context related to drivers of and barriers to psychosocial risk management and is the relationship between drivers and barriers and psychosocial risk management dependent on the cultural context?
4. What are types of organisations in terms of their approach to psychosocial risk management and in reference to factors that are related to psychosocial risk management, taking the context into account?

⁽²⁾ The PRIMA-EF project was funded by the European Commission and was aimed at developing a European framework for psychosocial risk management in the workplace.

Based on the research questions and the theoretical framework, we have formulated hypotheses.

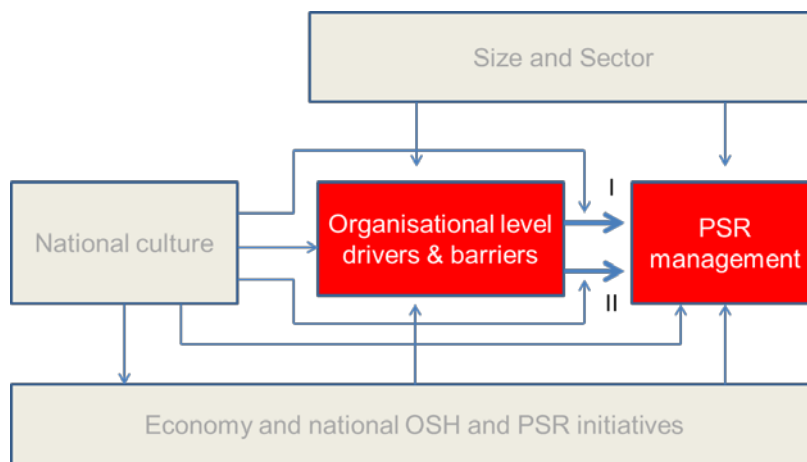
RQ1: Is the level of psychosocial risk management related to drivers and barriers at the organisational level?

For this research question, we hypothesised that:

- I. The presence of drivers is positively associated with psychosocial risk management.
- II. The presence of barriers to addressing safety and health is negatively associated with psychosocial risk management, as well as the additional barrier that psychosocial risks are more difficult to manage than OSH risks.

In Figure 5, the arrows marked I and II represent the relations in the theoretical framework that we shall study to test the hypotheses.

Figure 5: Hypotheses I and II in the theoretical framework.



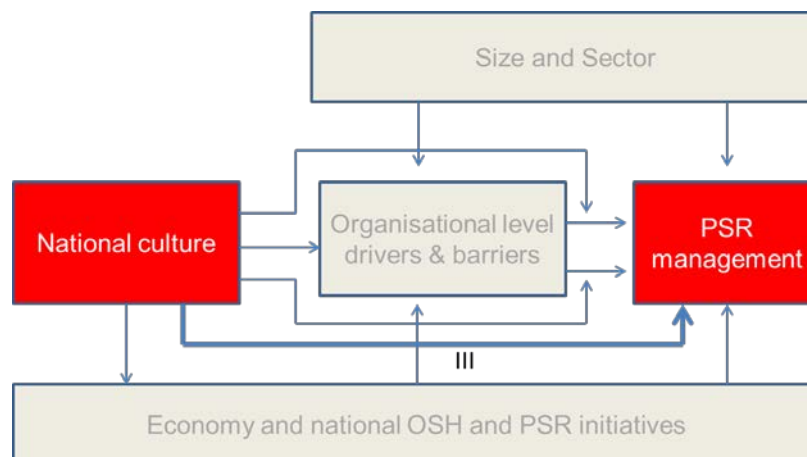
RQ2: What is the link between national culture and psychosocial risk management?

For this research question, we hypothesised that:

- III. The prevalence of psychosocial risk management differs in different cultures.

In Figure 6, the arrow marked III represents the relation in the theoretical framework that we shall study to test the hypothesis.

Figure 6: Hypothesis III in the theoretical framework.



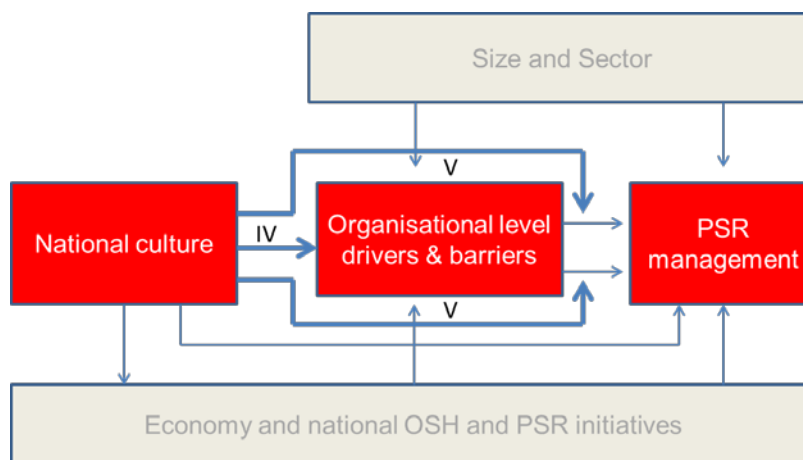
RQ3: Is cultural context related to drivers of and barriers to psychosocial risk management and is the relationship between drivers and barriers and psychosocial risk management dependent on the cultural context?

For this research question, we hypothesised that:

- IV. The prevalence of drivers of and barriers to psychosocial risk management differs in countries with different cultures.
- V. The importance of some drivers of and barriers to psychosocial risk management will differ in countries with different cultures.

In Figure 7, the arrows marked IV and V represent the relations in the theoretical framework that we shall study to test the hypotheses.

Figure 7: Hypotheses IV and V in the theoretical framework.

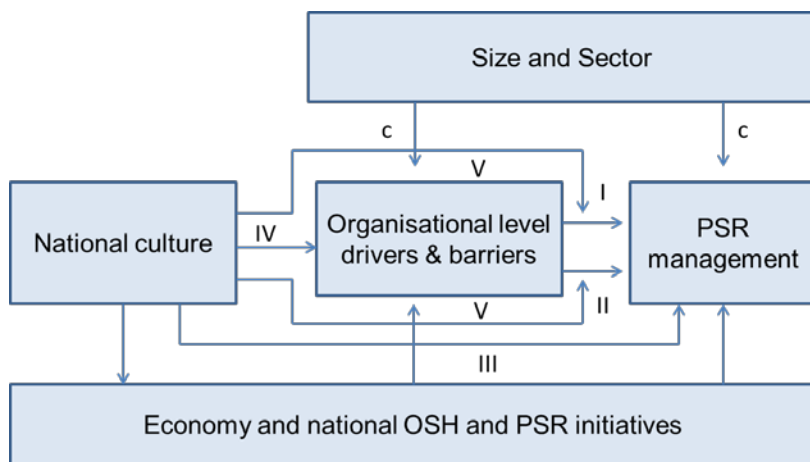


RQ4: What are types of organisations in terms of their approach to psychosocial risk management and in reference to factors that are related to psychosocial risk management, taking the context into account?

The analyses performed for research questions 1-3 will provide the information to establish a typology of establishments which score low, or especially high, on psychosocial risk management. It is possible to characterise these differences using the grouping information from countries, sectors and establishment size, but particular input for the typology may come from the drivers and barriers, because this information identifies the main characteristics of establishments based on their focus on improving psychosocial risk management. This insight will be presented by combining the relevant results from the four research questions graphically. That graph will show how establishments may vary along more than one dimension, which gives additional information about the results presented from the four analyses.

Figure 8 shows the hypotheses in the theoretical framework. Since the level of psychosocial risk management is also related to size and sector, these factors will be taken into account in the analyses on the organisational level. They are treated as control variables to prevent them from biasing the results of the analyses aimed at the research questions.

Figure 8: Theoretical framework with hypotheses (the numbers refer to the hypotheses, 'c' refers to control variables).



3 Methods

3.1 Data analysis

3.1.1 Data sources

ESENER-2 asked those ‘who know best’ about safety and health in their establishment about the way safety and health risks are managed at their workplace. In summer/autumn 2014, a total of 49,320 establishments — across all sectors and employing at least five people — were surveyed in the 36 countries covered. For the present study, we included the EU-28, Iceland and Norway.

The ESENER-2 dataset was complemented with several other data sources focusing on the national context that may affect the management of psychosocial risks. Below, we describe these sources and the data we included in the analysis.

3.1.2 Operationalisation of the elements of the framework

Psychosocial risk management

For this study, we use a composite score for psychosocial risk management based on the following items from ESENER-2 to measure the level/extent of psychosocial risk management:

Table 1: Items from ESENER-2 to measure psychosocial risk management

Number of question in the ESENER-2 questionnaire	Question
Q300	Does your establishment have an action plan to prevent work-related stress?
Q301	Is there a procedure in place to deal with possible cases of bullying or harassment?
Q302	Is there a procedure to deal with possible cases of threats, abuse or assaults by clients, patients, pupils or other external persons?
Q303_1	<i>In the last 3 years, has your establishment used any of the following measures to prevent psychosocial risks?</i> Reorganisation of work in order to reduce job demands and work pressure
Q303_2	Confidential counselling for employees
Q303_3	Set-up of a conflict resolution procedure
Q303_4	Intervention if excessively long or irregular hours are worked
Q356_3	<i>On which of the following topics does your establishment provide the employees with training?:</i> On how to prevent psychosocial risks such as stress or bullying <i>Which of the following aspects are routinely evaluated in these workplace assessments?:</i>
Q252_5	Supervisor-employee relationships*
Q252_6	Organisational aspects such as work schedules, breaks or work shifts*

1 point for the composite score if one of the items is affirmative

The composite score consists of the count of affirmative answers to questions Q300, Q301, Q302, Q303_1, Q303_2, Q303_3, Q303_4 and Q356_3, plus one if either Q252_5 or Q252_6 is affirmative. This calculation results in a variable ranging from 0 to 9. The higher the score, the more a company organisation is active in psychosocial risk management. Cronbach's alpha is 0.76.

Drivers and barriers at the organisational level

The drivers and barriers used in the secondary analyses on ESENER-1 data were specifically related to psychosocial risk management. In the ESENER-2 questionnaire, many of these drivers and barriers are asked only in relation to general OSH management. As mentioned earlier, in Chapter 2, proper OSH management appears to be a predictor for psychosocial risk management and we assume these drivers and barriers to have an impact on psychosocial risk management as well.

For this reason, we also include drivers and barriers in our analyses that were not related specifically to psychosocial risk management in the questionnaire.

To identify drivers at the organisational level, we used the items from ESENER-2 listed in Table 2.

Table 2: Items from ESENER-2 to measure potential drivers of psychosocial risk management*

Number	Question in the ESENER-2 questionnaire	Variable
	<i>Besides these risks, there may also be health risks resulting from the way work is organised, from social relations at work or from the economic situation. Please tell me for each of the following risks whether or not it is present in the establishment?</i>	
1	Q201_1 Time pressure	Composite score 'report on the presence of psychosocial risks'
	Q201_2 Poor communication or cooperation within the organisation	
	Q201_3 Employees' lack of influence over their work pace or work processes	
	Q201_4 Job insecurity	
	Q201_5 Having to deal with difficult customers, patients, pupils etc.	
	Q201_6 Long or irregular working hours	
	Q201_7 Discrimination, for example due to gender, age or ethnicity	
	<i>In your establishment, how important are the following reasons for addressing health and safety? For each reason, please tell me whether it is a major reason, a minor reason or not a reason at all.</i>	
2	Q264_1 Fulfilling legal obligation*	Single item
3	Q264_2 Meeting expectations from employees or their representatives*	Single item
4	Q264_3 Maintaining or increasing productivity*	Single item
5	Q264_4 Maintaining the organisation's reputation*	Single item
6	Q264_5 Avoiding fines and sanctions*	Single item
	Q162 Are health & safety issues discussed at the top level of management?*	Composite score 'management commitment to OSH'
	Q163 Do the team leaders and line managers receive any training on how to manage health & safety in their teams?*	
7	Q156 Is there a specific budget set each year for health & safety measures and equipment?*	
	Q350 How often is health & safety discussed between employee representatives and the management?*	
	Q358 Are health & safety issues regularly discussed in staff or team meetings?*	
8	Q258b Are employees usually involved in design and implementation of measures after a risk assessment?*	Single item
9	Q166 <i>Which of the following forms of employee representation do you have (any form versus none)?</i> <ul style="list-style-type: none"> • A works council • A trade union representation 	Any form versus none

Number	Question in the ESENER-2 questionnaire	Variable
	<ul style="list-style-type: none"> • A health and safety representative • A health and safety committee 	
*	Please note that in the questionnaire these drivers were linked to OSH in general and not to psychosocial risk management in particular	

The seven separate items of Q201 referred to the presence of health risks resulting from the way work is organised, from social relations at work or from the economic situation. They were used for the composite score 'report on the presence of psychosocial risks' by counting the affirmative answers, resulting in a variable ranging from 0 to 7. Cronbach's alpha is 0.64. The items with regard to the reasons for addressing safety and health (Q264_1 to Q264_5) were treated as separate variables using the score scheme 'not a reason' = 0, 'minor reason' = 1 and 'major reason' = 2. Items Q162, Q163, Q156, Q350 and Q358 were used for the composite score 'management commitment to OSH' by counting them according to the score scheme as indicated above. The calculation resulted in a variable ranging from 0 to 10. Cronbach's alpha is 0.63. Item Q258b was treated as a separate variable with the following score scheme: 'yes'/'depends on the type of measure' = 1; 'no' = 0. The four items on forms of employee representation were recoded into one variable. If the presence of one or more of these forms was confirmed (works council, trade union representation, safety and health representative or safety and health committee) then a '1' was assigned, while a '0' was assigned in cases where no form of employee representation was present.

To identify barriers at the organisational level, we used the items from ESENER-2 listed in Table 3.

Table 3: Items from ESENER-2 to measure potential barriers to psychosocial risk management

Number	Question in the ESENER-2 questionnaire	Variable
	<i>What are the main difficulties in addressing health and safety in your establishment? Please tell me for each of the following options whether it is a major difficulty, a minor difficulty, or not a difficulty at all.</i>	
1	Q265_1 A lack of time or staff*	Single item
2	Q265_2 A lack of money*	Single item
3	Q265_3 A lack of awareness among staff*	Single item
4	Q265_4 A lack of awareness among management*	Single item
5	Q265_5 A lack of expertise or specialist support*	Single item
6	Q265_6 The paperwork*	Single item
7	Q265_7 The complexity of legal obligations*	Single item
	<i>Do any of the following factors make addressing psychosocial risks more difficult than addressing other health risks?</i>	
8	Q306_1 A lack of awareness among staff	Composite score 'addressing psychosocial risks more difficult than other health risks'
	Q306_2 A lack of awareness among management	
	Q306_3 A lack of expertise or specialist support	
	Q306_4 Reluctance to talk openly about these issues	
*	Please note that in the questionnaire these barriers were linked to OSH in general and not to psychosocial risk management in particular	

Q265 referred to difficulties in addressing safety and health risks in general (not to psychosocial risks in particular). The items were treated as separate variables. The following score scheme was applied: 'not a reason' = 0, 'minor reason' = 1 and 'major reason' = 2. Q306 referred to factors that would make addressing psychosocial risks more difficult than addressing other health risks. The four items of Q306 were combined in a composite score by counting the affirmative responses. Respondents who did not

report psychosocial risks (as summed up in Q201) were not asked these questions, since the question would not be applicable. They were assigned a '0' on the composite score.

National culture

Values for cultural dimensions of each country were derived from the 2010 edition of the book *Cultures and Organisations: Software of the Mind*, in which scores on cultural dimensions are listed for 76 countries (Hofstede et al., 2010). These scores range from 0 to 100 and are based on survey results collected within subsidiaries of a large multinational business organisation (IBM). The survey was conducted twice (in 1968 and 1972), accumulating more than 116,000 questionnaires.

We used the scores of the European countries on the following dimensions:

- PD;
- UA;
- masculinity.

Size and sector

We distinguished four company sizes in terms of number of people employed:

- 5-9 persons;
- 10-49 persons;
- 50-249 persons;
- 250 persons or more.

We followed the classification applied in ESENER, which distinguished between 19 sectors, based on the sector classification NACE Rev. 2:

- A – agriculture, forestry and fishing;
- B – mining and quarrying;
- C – manufacturing;
- D – electricity, gas, steam and air conditioning supply;
- E – water supply, sewerage, waste management and remediation activities;
- F – construction;
- G – wholesale and retail trade, repair of motor vehicles and motor cycles;
- H – transportation and storage;
- I – accommodation and food service activities;
- J – information and communication;
- K – financial and insurance activities;
- L – real estate activities;
- M – professional, scientific and technical activities;
- N – administrative and support service activities;
- O – public administration and defence, compulsory social security;
- P – education;
- Q – human health and social work activities;
- R – arts, entertainment and recreation;
- S – other service activities.

Economy and national initiatives with regard to occupational safety and health and psychosocial risks

The economic situation was operationalised by the GDP per capita, based on purchasing power parity (PPP GDP). We used data at country level provided by the World Bank (<http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>).

We explored the (grey) literature to find indicators for the level of national initiatives in the field of occupational safety and health, in particular psychosocial risks. Their influences on psychosocial risk management were checked in preliminary analyses. After the preliminary analyses, the following measures were included:

1. Level of joint efforts of social partners to promote mental health in the workplace. This variable is based on the evaluation of policy and practice with regard to the implementation of the EU framework agreement on work-related stress. In the overview, all relevant initiatives were included, both those that pre-date the agreement and those that result from it (European Commission, 2011). In the report, the following categories were distinguished: 1, no action reported; 2, no social partner initiative; 3, limited social partner initiative; 4, moderate or unilateral efforts of social partners; 5, substantial joint efforts of social partners.
2. The same report also contains an overview of instruments used in the implementation of this framework. Instruments could refer to changes in legislation, campaigns to raise awareness or an explicit legal framework including extensive guidance and practical tools (European Commission, 2011). In the report, the following categories were distinguished: 1, no action reported; 2, mainly legislation; 3, non-binding instruments; 4, national collective agreement or social partner action based on explicit legal framework.

We realise that some of these variables may be outdated because of recent national initiatives. Therefore, we checked the recent developments (between 2010 and 2014, when the ESENER questionnaire was issued) and made some updates of the classification.

3.1.3 Analysis

The hierarchical structure of the ESENER-2 data, with measurements performed on companies of different sizes, in different sectors and in different countries, makes the data well suited for analysis with a multilevel model, with adjustments for the influence of country, sector, company size and respondent type.

3.2 Focus group with experts from different countries

Testing the effects of national values through quantitative analyses can be seen as 'exploratory' research. However, the richness of a national culture cannot be represented by only a rating on a value dimension. Therefore, we discussed our findings in a focus group of experts. Experts from five countries (Denmark, Germany, France, the Netherlands and Poland) participated in the focus group meeting, while experts from a sixth country (Italy) provided their input by e-mail. The experts are presented in Annex 2. The aim of the focus group meeting was to enable the interpretation of the findings of the present study in a meaningful way. Below, the three objectives of this consultation of experts are described.

The first objective of the focus group meeting was to gain more background information on the available data on cultural background, psychosocial risk management, and drivers and barriers at the organisational level. We see large differences between some countries. Do they recognise them? Do they have an explanation for the relatively high or low scores in their own country?

The second objective of the focus group meeting was to gather information on other relevant national context variables in relation to psychosocial risk management. The present study included national culture, the economic situation (GDP per capita), and national OSH and psychosocial risk (PSR) initiatives (i.e. joint efforts of social partners and national measures in the field of stress at work). However, other national factors might also be important (e.g. activities of the labour inspectorate, sector initiatives).

The third objective of the focus group meeting was to gain information on possibilities of enhancing psychosocial risk management in the different countries. The experts were asked what in their opinion is needed in their country to enhance psychosocial risk management.

4 Results

Figure 9 shows the differences in psychosocial risk management among EU and EFTA countries. This variable has a minimum value of 0 and a maximum value of 9. The mean value is 3.8. The figure shows that the United Kingdom has the highest value of PSR management (5.2), meaning that in this country the greatest number of activities aimed at psychosocial risk factors were reported. The Czech Republic has the lowest score (2.2).

Figure 9: PSR management among EU-28 and EFTA countries (see Annex 1 for country abbreviations).

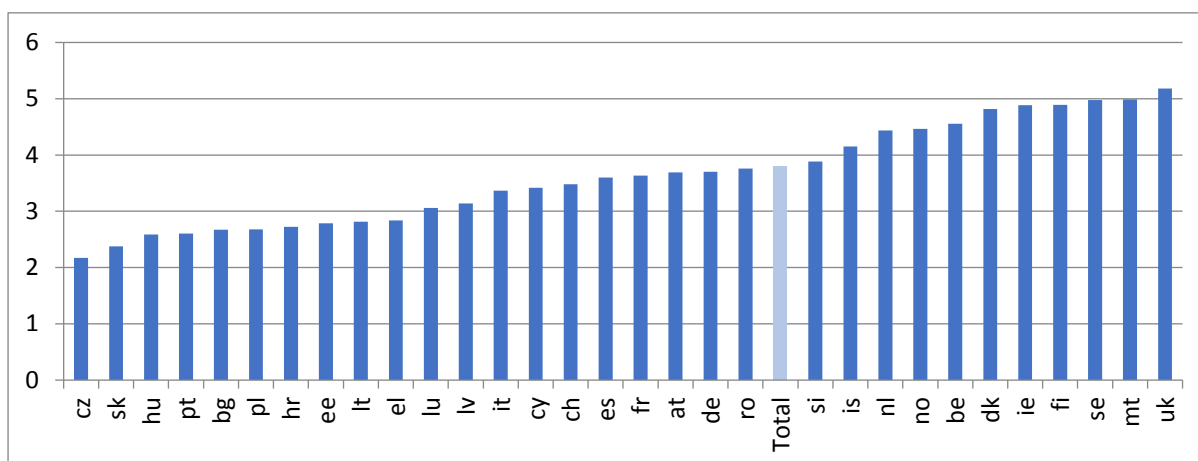


Table 4 shows the drivers and Table 5, the barriers by country. With regard to the drivers, we see that the presence of psychosocial risks is most often reported in northern European countries, and less often in central and eastern Europe, and in Italy. Countries differ highly in management commitment to OSH. The highest score is reported in the United Kingdom (0.3) and the lowest in Greece (-0.6). Table 5 shows that in general, in central and eastern European countries, the respondents reported fewer factors that make it more difficult to address psychosocial risks than other health risks. We checked if this was due to the lower level of reporting on the presence of psychosocial risks in these countries, as the respondents who did not report the presence of psychosocial risks were not asked the questions about the factors that make psychosocial risk management more difficult. In the analysis, they were assigned a '0' on these potential barriers. However, if they were treated as 'missing cases' (hence not influencing the final score), the results also indicated that central and eastern European countries reported these factors less often.

Standardised scores

In the results section, we often present standardised scores. Technically, this means that we converted the actual scores to standard scores by the equation $(x - M_x)/SD_x$, resulting in variables with a mean of 0 and a standard deviation of 1. This procedure enables us to compare variables measured on different scales. For example, Table 4 contains the standardised scores of the drivers by country. The variable representing management commitment ranges from 0 to 10, while the variable representing the presence of psychosocial risks ranges from 0 to 7. Using the original scores would allow us to compare countries, but, if we want to see right away if one of these variables is relatively high or low in a specific country, we should take the overall mean and standard deviation of each of these variables into account. Standardised scores allow us to see the differences between countries on several variables simultaneously and at first glance.

Table 4: Drivers by country (average standardised scores).

Country *	Report on the presence of PSR	Fulfilling legal obligations	Meeting expectations from employees	Increasing productivity	Organisation's reputation	Management commitment & Communication	Any form of employee representation	Employee involvement in RA measures
at	0.02	0.10	0.04	0.26	0.11	-0.19	0.40	0.20
be	0.17	0.02	0.18	-0.22	-0.12	0.02	-0.27	-0.20
bg	-0.53	0.11	0.26	0.42	0.39	0.01	0.40	-0.34
ch	0.01	-0.14	0.00	-0.01	0.12	-0.37	-0.50	0.17
cy	-0.01	-0.39	0.06	0.51	0.41	-0.12	0.40	-0.05
cz	-0.38	-0.02	-0.52	-0.04	0.10	0.15	-0.24	0.01
de	0.12	0.09	-0.01	0.20	0.07	0.03	0.40	0.17
dk	0.59	-0.52	0.19	0.08	-0.18	-0.01	0.15	0.18
ee	0.15	0.19	0.28	0.24	0.39	-0.24	0.40	0.15
el	-0.07	-0.29	0.01	0.42	0.31	-0.61	-1.13	-0.42
es	-0.21	0.07	-0.13	-0.11	-0.19	-0.18	-0.21	-0.05
fi	0.40	0.12	0.23	0.44	0.14	-0.18	0.06	0.20
fr	0.08	-0.09	0.07	-0.57	-0.46	-0.14	-0.27	-0.26
hr	-0.16	0.10	0.10	0.46	0.27	-0.17	-0.05	-0.05
hu	-0.40	-0.25	-0.49	-0.28	-0.04	-0.23	-0.44	-0.19
ie	0.07	0.00	-0.13	-0.11	0.12	0.11	0.10	0.00
is	0.18	-0.39	-0.06	-0.05	0.04	-0.51	-0.02	0.00
it	-0.56	0.07	0.28	0.28	0.27	0.11	0.28	0.03
lt	-0.65	-0.16	0.12	0.46	0.37	-0.02	0.09	-0.16
lu	0.12	-0.04	0.09	-0.12	0.05	-0.37	0.40	0.07
lv	-0.07	0.03	-0.32	0.37	0.24	-0.24	-0.85	-0.07
mt	0.09	-0.22	0.18	0.07	0.32	-0.04	-0.27	0.02
nl	0.54	-0.17	0.10	0.14	-0.07	-0.02	-0.22	0.06
no	0.49	0.15	0.28	0.27	0.29	0.24	0.32	0.26
pl	-0.31	-0.27	-0.70	-0.56	-0.78	-0.23	-0.53	-0.23
pt	0.08	0.18	0.21	0.44	0.26	-0.42	-0.88	0.17
ro	-0.28	0.04	0.03	0.48	0.29	0.30	0.19	-0.04
se	0.66	0.12	0.13	0.32	0.24	0.18	0.40	0.24
si	0.02	-0.01	-0.18	0.32	0.23	-0.18	0.40	-0.04
sk	-0.40	-0.32	-0.57	0.08	0.07	-0.01	0.08	-0.41
uk	0.20	0.08	0.15	-0.08	0.27	0.30	0.10	0.04

Note: see country abbreviations in Annex 1.

Table 5: Barriers by country (average standardised scores)

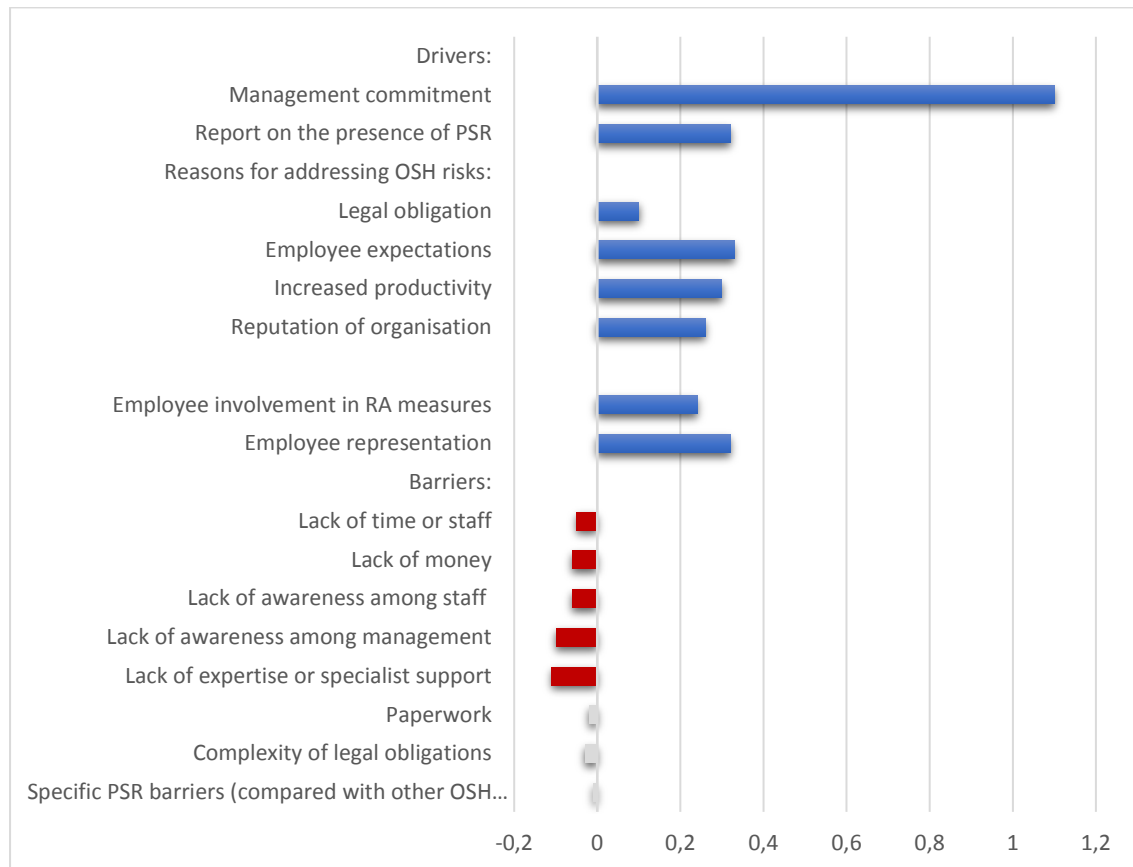
Country*	Lack of time or staff	Lack of money	Lack of awareness among staff	Lack of awareness among management	Lack of expertise or specialist support	Paperwork	Complexity of legal obligations	Specific PSR barriers (compared with other OSH risks)
at	-0.02	-0.29	0.06	-0.30	-0.24	0.00	0.03	0.08
be	0.27	0.16	0.24	0.17	0.13	0.20	0.18	0.03
bg	-0.26	0.04	-0.43	-0.27	-0.16	-0.36	-0.35	-0.33
ch	-0.01	-0.25	-0.10	-0.15	-0.11	-0.18	-0.21	-0.17
cy	-0.03	0.31	-0.27	-0.04	0.17	0.13	-0.10	0.18
cz	-0.36	-0.15	-0.52	-0.28	-0.24	-0.45	-0.10	-0.47
de	0.10	-0.27	0.03	-0.14	-0.15	0.05	0.12	0.14
dk	-0.01	-0.11	-0.03	0.03	-0.03	-0.24	-0.48	0.12
ee	-0.25	0.01	-0.37	-0.40	-0.25	-0.31	-0.48	-0.18
el	0.20	0.48	0.18	0.29	0.52	0.62	0.41	0.18
es	-0.05	0.03	0.24	0.13	-0.01	0.01	-0.14	-0.09
fi	-0.02	-0.15	-0.13	0.05	0.03	-0.33	-0.34	0.19
fr	0.31	0.32	0.18	0.18	0.44	0.12	0.36	0.25
hr	-0.37	0.22	-0.22	-0.19	-0.30	-0.31	-0.20	-0.26
hu	-0.31	-0.08	-0.15	-0.33	-0.27	-0.63	-0.38	-0.39
ie	0.19	0.15	0.02	0.20	0.35	0.14	0.01	0.22
is	-0.04	-0.03	-0.17	0.08	0.06	-0.21	-0.38	0.04
it	0.01	0.27	0.00	0.10	-0.07	0.67	0.49	-0.21
lt	-0.21	0.24	-0.46	-0.27	-0.06	-0.41	-0.46	-0.32
lu	-0.02	-0.32	-0.14	-0.19	-0.03	-0.29	-0.22	0.03
lv	-0.39	0.12	-0.29	-0.28	-0.22	-0.54	-0.49	-0.08
mt	0.25	0.13	-0.05	-0.05	0.07	-0.39	-0.37	0.36
nl	-0.05	0.09	0.34	0.15	-0.04	0.03	0.01	0.01
no	-0.06	-0.19	-0.16	-0.06	-0.18	-0.26	-0.32	-0.17
pl	-0.23	0.10	-0.05	0.05	0.05	0.06	0.05	-0.14
pt	0.02	0.34	0.11	0.06	0.08	0.33	0.14	0.17
ro	-0.40	-0.05	-0.21	-0.20	-0.08	-0.63	-0.62	-0.29
se	0.21	0.14	0.10	0.19	0.18	-0.08	-0.32	0.18
si	-0.26	-0.01	-0.38	-0.33	-0.45	-0.13	-0.41	-0.25
sk	-0.36	0.11	-0.44	-0.26	-0.28	-0.23	-0.19	-0.45
uk	-0.06	-0.11	-0.12	0.07	-0.01	-0.18	-0.26	0.03

Note: see country abbreviations in Annex 1.

4.1 Drivers and barriers at the organisational level (RQ1)

The relation between psychosocial risk management and drivers and barriers was evaluated in a multilevel regression analysis, adjusted for country, sector, company size and respondent type. In the model, the psychosocial risk management variable was the dependent variable, and drivers and barriers were the independent variables. For each of the independent variables, separate analyses were performed. The variables were standardised to enable their comparison. The results of the analysis are shown in Figure 10.

Figure 10: Associations between drivers and barriers and PSR management.



Our hypotheses for this research question were that the drivers are positively associated and barriers negatively associated with psychosocial risk management. These hypotheses can be confirmed with regard to the drivers, since they were all positively associated with psychosocial risk management. The strongest association was found for management commitment to OSH.

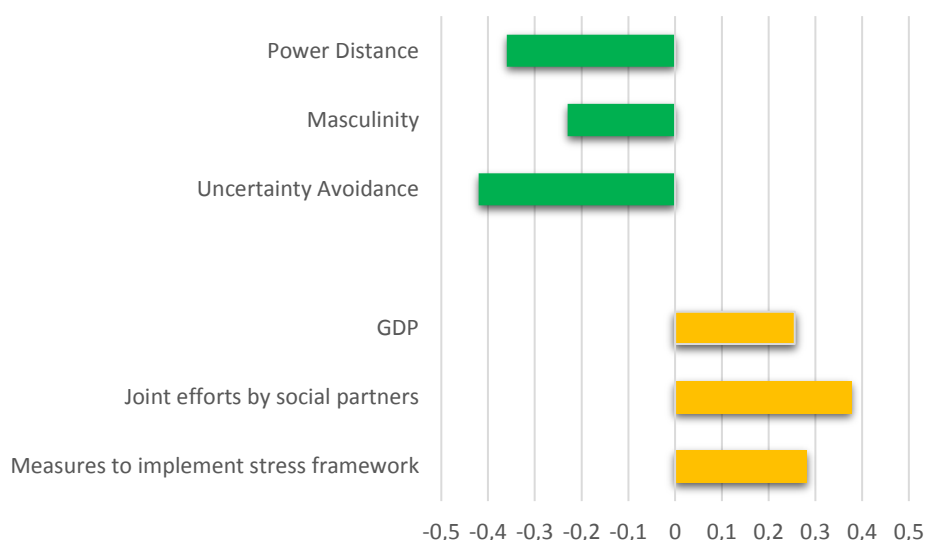
Also in line with our hypothesis, most barriers that were investigated were negatively associated with psychosocial risk management. No relation was found between psychosocial risk management and the mentioning of paperwork or the complexity of legal obligations as a difficulty in addressing safety and health in the organisation. The mentioning of specific barriers to deal with psychosocial risks compared with other health risks was not related to psychosocial risk management either.

4.2 National culture and psychosocial risk management (RQ2)

The relationship between the national context and psychosocial risk management, in particular the national cultural dimensions, was also investigated in separate univariate multilevel regression analyses, with the psychosocial risk management variable as the dependent variable and the national context variables as independent variables. The analyses were adjusted for country, sector, company size and

respondent type. Apart from the cultural dimensions, PD, masculinity (MAS) and UA, we also included GDP per capita, 'joint efforts of social partners' and 'measures taken to implement the EU framework agreement on work-related stress'. The variables were standardised to enable their comparison. The result is shown in Figure 11.

Figure 11: Associations between national context variables and psychosocial risk management.



The association of almost all national context variables with psychosocial risk management was statistically significant with the exception of MAS ($p = 0.057$). Note that the relationships between all the national context variables and psychosocial risk management are more or less at the same level, and comparable to the relationships between most drivers at the organisational level and psychosocial risk management. However, the association with the variable 'management commitment to OSH' is much stronger (see Figure 10). A high PD score and a high UA score are associated with less psychosocial risk management. In addition, a high GDP, more joint efforts by social partners and more measures in place to implement the EU framework agreement on work-related stress were associated with more psychosocial risk management.

The separate variables were also associated with each other. Table 6 shows the correlations between the national context variables. It shows that the cultural dimensions PD and UA are strongly associated, while MAS is hardly associated with the other cultural dimensions. MAS is also not, or only weakly, related to the other national context variables, whereas PD and UA are strongly associated with them.

Table 6: Correlations between national context variables

Variable	PD	MAS	UA	GDP	Efforts SP	Measures
Power distance	1.00					
Masculinity	-0.10	1.00				
Uncertainty avoidance	0.66	-0.01	1.00			
GDP per capita 2015	-0.70	0.00	-0.51	1.00		
Joint efforts by social partners	-0.53	-0.06	-0.44	0.74	1.00	
Measures to implement framework stress	-0.37	-0.08	-0.43	0.57	0.65	1.00

Based on these strong correlations, we further explored the relationship between the national context variables. We did not include masculinity, since it is not statistically significantly related to psychosocial risk management. For the other national context variables, we constructed a dichotomy that distinguished between a 'favourable context' and an 'unfavourable context' with regard to psychosocial risk management:

- economic situation: GDP above versus below EU average;
- culture: PD and UA both above versus both below EU average ⁽³⁾;
- national initiatives: substantial joint efforts and national agreement or actions based on an explicit legal framework versus fewer initiatives.

Table 7 shows that the national context in most countries can be classified as either favourable or unfavourable, since their scores on the context variables follow a similar pattern. Most countries with a favourable cultural context also have a favourable economic situation and favourable national initiatives, and most countries with an unfavourable cultural context also have an unfavourable economic situation and unfavourable national initiatives. However, exceptions do occur. For example, in France GDP is below average and also the cultural context is not favourable for psychosocial risk management. However, the variable on national initiatives is favourable. In Ireland, Luxembourg and Switzerland, GDP is above average and the cultural context is favourable, while fewer national initiatives occur in these countries. We also see that a favourable national context does not guarantee favourable psychosocial risk management in companies. For example, in Germany all national context variables are favourable. Nevertheless, psychosocial risk management is below average. Malta and Slovenia have an unfavourable national context, but psychosocial risk management is above average.

Table 7: Countries and their national context

		+	-
		GDP	GDP
+	+	DE, DK, FI, NL, NO, SE, UK	
	cultural initiatives		
-	-	CH, IE, LU	EE, LT, LV
	cultural initiatives		
-	+	BE	FR
	cultural initiatives		
			BG, CZ, EL, ES, HR, IT, MT , PL, PT, RO, SI
			-initiatives

Note: in the countries shown in bold, psychosocial risk management is above average (i.e. companies have relatively many activities aimed at psychosocial risks).
+, favourable; -, unfavourable

The relationship between the national context and psychosocial risk management (model 1) was further explored by combining them in one model. This full model (model 2) contained the cultural dimensions, GDP per capita, and two variables representing the national OSH and PSR initiatives (i.e. joint efforts by social partners and measures to implement the EU framework agreement on work-related stress).

(3) In almost all European countries, PD and UA were either both below or both above average, with the exception of Hungary, Austria and Slovakia. It is unknown why these countries have an atypical pattern. For country clusters see Annex 3.

In both models, the analyses were adjusted for the influence of sector, size, country and respondent type. The results are presented in Table 8.

The table shows that no national context variable is associated with psychosocial risk management after adjusting for the influence of the other context variables. Apparently, since they all relate to each other, the separate relationship of each of them with psychosocial risk management is already explained by the other variables. Possibly, the cultural context and the economic situation have influenced the national initiatives in the field of OSH or psychosocial risk management. However, it is also possible that a favourable cultural context has an impact on psychosocial risk management directly. Because of the cross-sectional nature of the dataset used, it is not possible to detect how the context variables relate to each other, since we cannot disentangle cause and effect.

Table 8: Associations between national context variables and psychosocial risk management

	Model 1		Model 2	
	Estimate	p-value	Estimate	p-value
Power distance	-0.36	0.01	-0.01	0.55
Masculinity	-0.23	0.06	-0.01	0.23
Uncertainty avoidance	-0.42	0.00	-0.01	0.15
GDP per capita 2015	0.26	0.01	0.00	0.47
Joint efforts by social partners	0.28	0.03	0.00	1.00
Measures to implement framework stress	0.38	0.00	0.27	0.12

Note: in models 1 and model 2, the analyses were adjusted for sector, size, country and respondent type as described in section 3.1; in model 1, the context variables were analysed separately, while model 2 contained all national context variables together.

4.3 Relationship between cultural context and the drivers of and barriers to psychosocial risk management (RQ3)

This research question contains two parts: first ‘is cultural context related to the prevalence of drivers and barriers?’ and second ‘is the relationship between drivers and barriers and psychosocial risk management dependent on the cultural context?’.

To answer the first question, we carried out a multilevel regression analysis, adjusted for country, sector, company size and respondent type. Table 9 shows the associations between cultural context and the prevalence of drivers and barriers. We hypothesised that the prevalence of drivers of and barriers to psychosocial risk management would differ in countries with different cultures. This hypothesis could be confirmed only in small part. Most drivers and barriers are not, or only weakly, related to cultural factors.

Table 9: Associations between national cultural dimensions and the prevalence of drivers and barriers at the organisational level

	Power distance	Masculinity	Uncertainty avoidance
Drivers:			
Management commitment	-0.01	-0.01	-0.40
Reporting on the presence of PSR	-0.10	-0.21**	-0.10
Reasons for addressing OSH risks:			
• Legal obligation	-0.01	-0.01	0.01
• Employee expectations	-0.04	-0.04*	-0.01

	Power distance	Masculinity	Uncertainty avoidance
• Increased productivity	-0.06	-0.06	-0.04
• Reputation of organisation	-0.04	-0.02	-0.03
Employee involvement in RA measures	-0.03**	-0.02*	-0.02
Employee representation	-0.03	-0.00	-0.06*
Barriers:			
Lack of time or staff	-0.01	-0.00	0.05
Lack of money	0.03	-0.01	0.01
Lack of awareness among staff	-0.01	-0.01	0.06*
Lack of awareness among management	0.01	-0.01	0.01
Lack of expertise or specialist support	0.02	-0.00	0.03
Paperwork	0.03	0.04	0.11*
Complexity of legal obligations	0.05	0.08*	0.13**
Specific PSR barriers (compared with other OSH risks)	-0.08	-0.06	0.04

*, $p < 0.05$; **, $p < 0.01$.

Informal employee involvement after risk assessment is negatively associated with PD. This indicates that, in countries with less PD, more informal employee involvement can be found. PD was not associated with barriers at the organisational level.

With regard to masculinity, the strongest association is with reporting on the presence of psychosocial risks, indicating that psychosocial risks are more often reported in feminine cultures than in masculine cultures. With regard to the barriers we found that the complexity of legal obligations relates positively to masculinity. This implies that in masculine countries the complexity of legal obligation is more often considered a barrier to addressing safety and health than in feminine countries. However, the association is only weak.

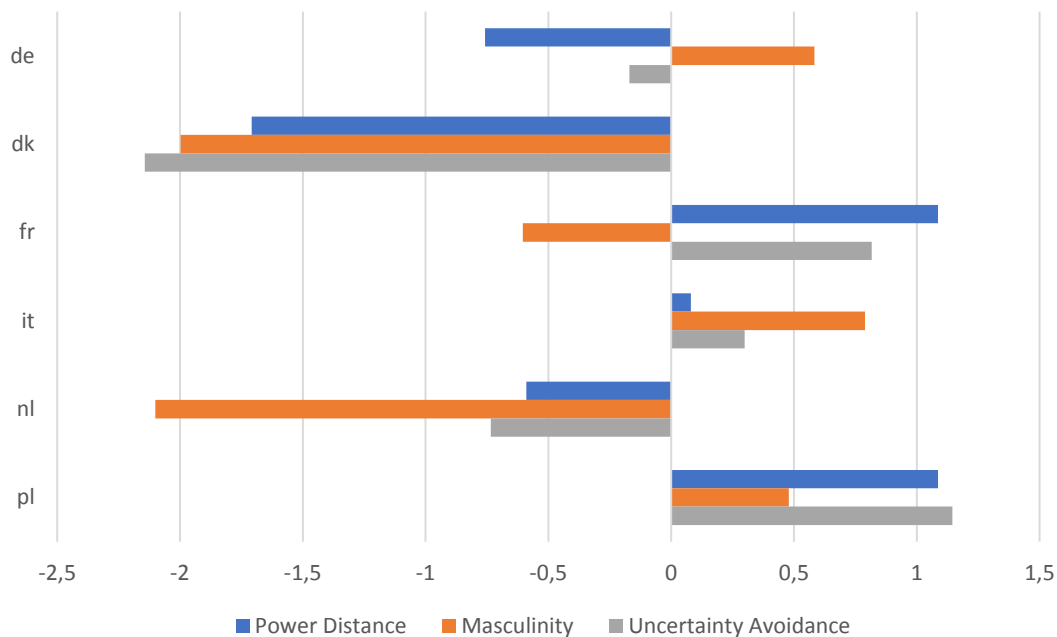
Of all drivers, only formal employee representation is negatively associated with UA. Therefore, in countries with a low UA, more organisations have formal employee representation in place. Three barriers at the organisational level are positively associated with UA: lack of awareness among staff, paperwork and the complexity of legal obligations. These results imply that, in countries with a high score on UA, lack of awareness among staff, paperwork and the complexity of legal obligation are more often barriers to addressing safety and health than in countries with a low score on UA.

Our second research question was if the influence of drivers and barriers on psychosocial risk management varied among countries with a different cultural context. We hypothesised that the importance of drivers of and barriers to psychosocial risk management will differ in countries with different cultures. Therefore, we carried out interaction analyses, in which we examined the interactions between different drivers and barriers and the cultural dimensions. However, although some interactions were statistically significant, the results showed only marginal differences in the relationships between drivers or barriers and psychosocial risk management in different cultures. These results may imply that the effects of drivers and barriers on psychosocial risk management are not strongly dependent on the cultural context.

4.4 Results of the focus group meeting

Participants in the focus group originated from Denmark, Germany, France, the Netherlands and Poland. Experts from Italy were not able to participate in the focus group at the time, but provided their input in writing later. Figure 12 shows that the countries from which the experts originated differed strongly in cultural dimensions.

Figure 12: Standardised scores on value dimensions of countries in the expert group based on Hofstede's scores.



The first aim of the focus group was to gain more information on cultural background, psychosocial risk management, and drivers and barriers at the organisational level of the countries of the participating experts. This information supported the interpretation of the findings of the present study.

First, the experts were asked to reflect on their country profile as indicated by the Hofstede dimensions (see Figure 12), the level of psychosocial risk management in their countries (average number measures by organisation to deal with psychosocial risks), and the prevalence of the drivers and barriers with the strongest relation to psychosocial risk management according to the results of the present study. In general, the conclusion was that these figures correspond to their assessment of the national situation. Nevertheless, they were unsure if the values on the cultural dimensions, assessed decades ago, were constant over time. In particular, masculinity might have changed in some countries (e.g. Germany).

Second, the results of the quantitative analyses were presented and discussed. The experts reflected on the finding that drivers and barriers at the organisational level seem to be the most effective determinants of psychosocial risk management, while the results with regard to the national context seem less clear. The assumption of the third research question, that the relation between drivers and barriers and psychosocial risk management is dependent on the cultural context, is not convincingly confirmed by the analysis. The experts acknowledged the potential influence of cultural dimensions as a (national) driver of or barrier to psychosocial risk management. This insight may help to understand why in some countries organisations have a more extensive approach to psychosocial risk management than in others. Although the results of the analyses give no indication that the impact of drivers and barriers on psychosocial risk management is related to the cultural context, experts argued that it could be worth taking into consideration the national context while planning interventions. Another result of the quantitative analysis was the relationship between psychosocial risk management and the economic situation: a higher GDP per capita was associated with more psychosocial risk management in organisations. An interesting phenomenon in contrast with this finding was that in some countries (e.g. Italy) psychosocial risk management was highly improved during the period of economic recession. One of the experts concluded that this relationship needs to be further investigated. In addition, results of the quantitative analyses also showed that psychosocial risk management is related to national initiatives. Experts recognised the importance of national initiatives in enhancing psychosocial risk management within organisations.

The second aim of the expert meeting was to find out more about the influence of possible other relevant national contextual factors (in addition to the cultural and economic context and national initiatives). Experts were asked which factors at the national level they considered important for psychosocial risk management. The experts suggested that the following factors have a favourable effect on psychosocial risk management within organisations:

- 'Flexibility', understood as the innovative capacity of organisations, is supposed to increase psychosocial risk management, e.g. by increasing the autonomy of workers and opportunities for development.
- The degree of participation or democracy in society, both at work and in the general society (e.g. employment participation in decision-making, participation in politics), may enhance (drivers of) psychosocial risk management within organisations.
- The importance of social dialogue, at national and organisational levels, is also stressed by the experts. At the organisational level, a lack of communication between management and employees may worsen the psychosocial climate. If at national level the social dialogue is poor, agreements or joint initiatives on psychosocial risk management will lag behind.

Finally, the focus group participants were asked what might be needed in their countries to improve psychosocial risk management. The following initiatives and activities were mentioned:

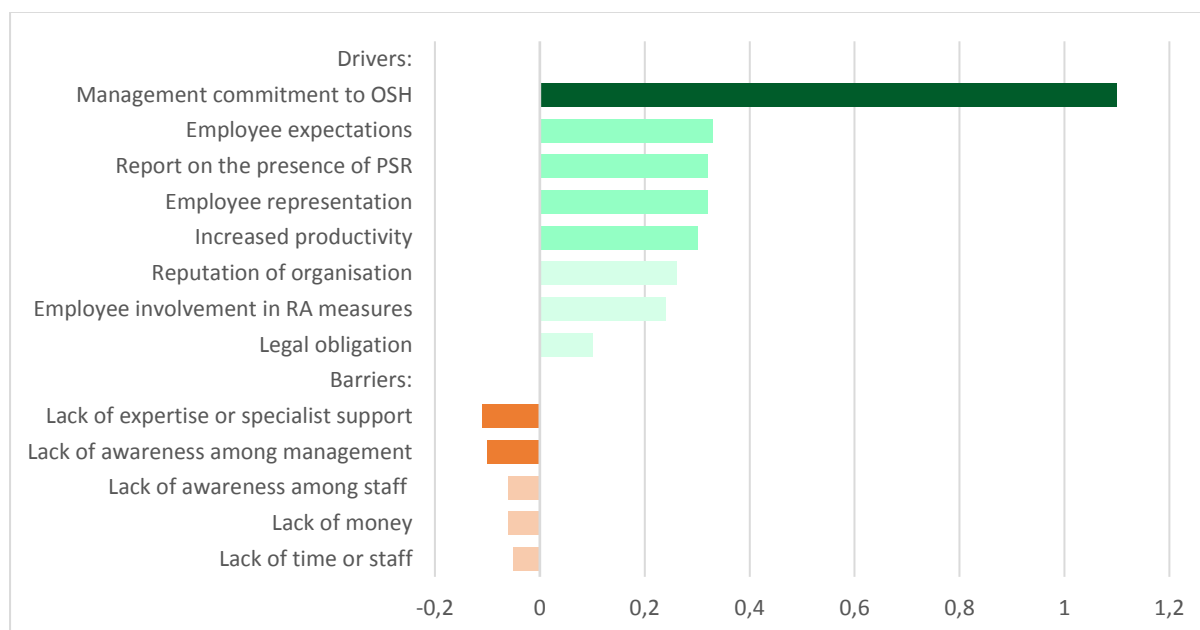
- Some experts mentioned the importance of an independent OSH service (as a public service). Currently, OSH consultants are often paid by the employer, who is often not considered a neutral party (in particular by the unions).
- Experts agreed that binding legal requirements, making psychosocial risk management mandatory, and more specific regulations can be effective drivers of psychosocial risk management.
- More attention to psychosocial risks in risk assessment could also enhance measures to prevent psychosocial risks; experts stress that organisations should receive more guidance in assessing these risks (tools, measures, information, etc.).
- Experts believe that more effort should be put into showing employers the business case for managing psychosocial risks: psychosocial risk management can be a way to earn money. Labour inspectorates, OSH professionals and human resources managers have a role in convincing employers that psychosocial risk management is also profitable and stimulates productivity.
- Experts stress that sector-based initiatives have proven to be helpful.

4.5 Types of organisations (RQ4)

Research question 4 was 'What are types of organisations in terms of their approach to psychosocial risk management and in reference to factors that are related to psychosocial risk management, taking the context into account?'

In the present study, we identified factors that are related to psychosocial risk management at the organisational level (see also section 4.2). Figure 13 shows the associations between drivers and barriers and psychosocial risk management. Only statistically significant drivers and barriers were included. Darker colours indicate a stronger association.

Figure 13: Statistically significant drivers of and barriers to psychosocial risk management at the organisational level.



The prevalence of these drivers and barriers may vary in different contexts and is related to the national context as well as company characteristics, such as size and sector. In the present study, the analyses were adjusted for the influence of size and sector of the companies. In earlier research using the ESENER data, the relation of these factors with psychosocial risk management was already studied (EU-OSHA, 2012b). As shown in section 2.1.3, smaller companies have less psychosocial risk management, and psychosocial risk management is more developed in the healthcare, education and financial sectors, and less so in the mining, agricultural and manufacturing sectors. In this study, we were interested in whether or not the relationship of size and sector to psychosocial risk management and its drivers and barriers would be different in a different national context. Therefore, we first have to define favourable and unfavourable national contexts.

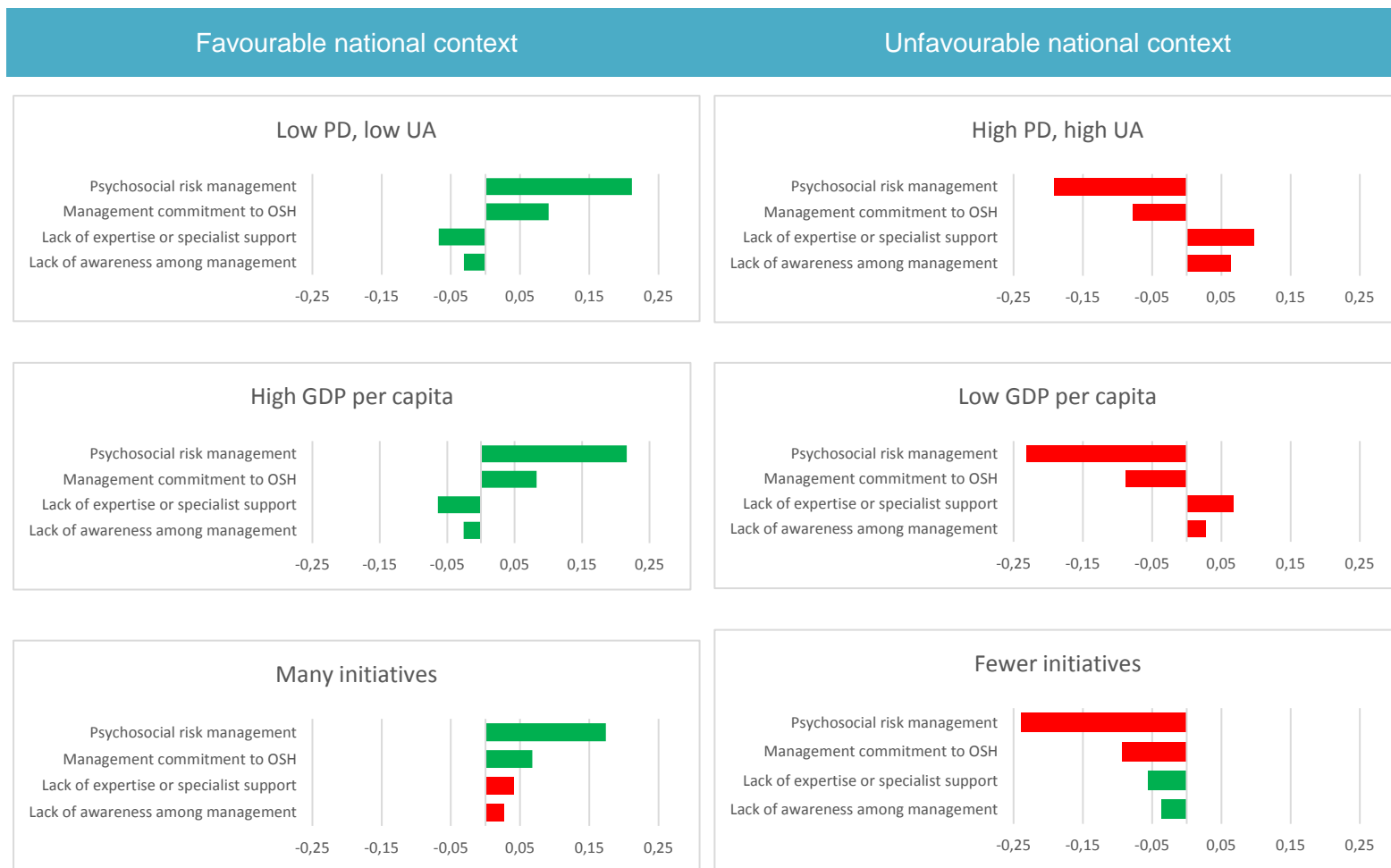
Earlier in this report, we concluded that national context variables were highly related: in most countries, the context is either favourable or unfavourable for psychosocial risk management on all variables (see also Table 12, section 4.3). A distinction between a favourable and an unfavourable national context might be based on favourable versus unfavourable cultural climate, low or high GDP per capita, and on the national initiatives with regard to (psychosocial) safety and health risks. Figure 4.6 shows the contrast between psychosocial risk management⁽⁴⁾ and the main drivers and barriers in different classifications of a favourable and an unfavourable national context. In general, psychosocial risk management and reported drivers of psychosocial risk management are more frequently reported in the favourable national context. However, the barriers to managing OSH show a different pattern: they are associated with national initiatives targeting OSH and psychosocial risks, which characterise a favourable national context.

Based on the results shown in Figure 14 and the knowledge that the national context variables are highly related, we may conclude that the choice of dimension to distinguish a favourable from an unfavourable national context (i.e. culture, GDP or national initiatives) would hardly influence the results. Since culture is an important focus of the present study, we used the cultural dimension to indicate a favourable or unfavourable national context. However, we checked if using other context variables (i.e. GDP per capita and national initiatives) would lead to different conclusions and found that other classifications of a favourable or unfavourable national context produced the same results.

(4) In this section, we compare companies of different sizes. Since some questions that were used for the operationalisation of psychosocial risk management were not asked in small companies, for the analyses in this section we used the mean of the questions asked and not the sum of the questions as indicated in 3.1.2.

In the next part, we show how psychosocial risk management and drivers and barriers differ between organisations of different sizes and sectors, within a favourable or unfavourable national context. We used the cultural dimension to distinguish between a favourable and an unfavourable national context. These figures are meant to provide more insight into the interplay between the national context and the company characteristics, and their relative importance. They will show if differences in company size or sector may have the same influence on psychosocial risk management and its drivers and barriers in a different national context, or, vice versa, if the national context may have the same influence in all sectors and in companies of all sizes.

Figure 14: Psychosocial risk management and the most important drivers and barriers in different dimensions of the national context



4.5.1 Size

In section 2.1.3, we showed that earlier research has indicated that the size of the enterprises is associated with psychosocial risk management, but also with potential drivers and barriers. In general, findings indicate that larger organisations have more measures in place to deal with psychosocial risks, and that more drivers and fewer barriers are present in these organisations. In the present study, we find similar results, as presented in Figure 15. It shows more psychosocial risk management in large organisations (more than 49 employees). In these large organisations, drivers of psychosocial risk management are also more often present, in particular management commitment, reporting on the presence of psychosocial risks and employee representation. Differences in barriers were small and they were not consistently more present in large or small companies.

Figure 15: Standardised prevalence of PSR management and drivers and barriers at the organisational level for organisations of different sizes.

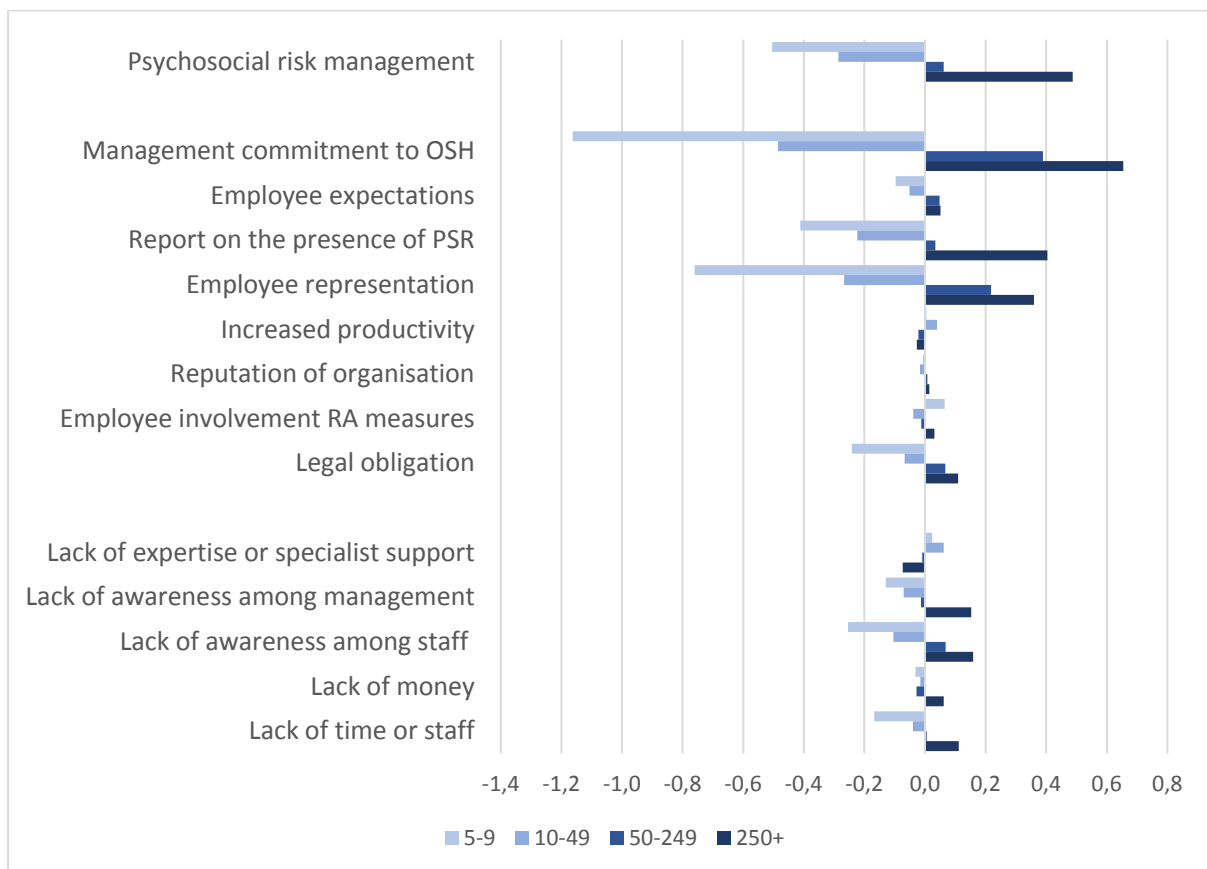


Figure 16: Psychosocial risk management and the most important driver and barriers in a favourable or unfavourable context for different company sizes

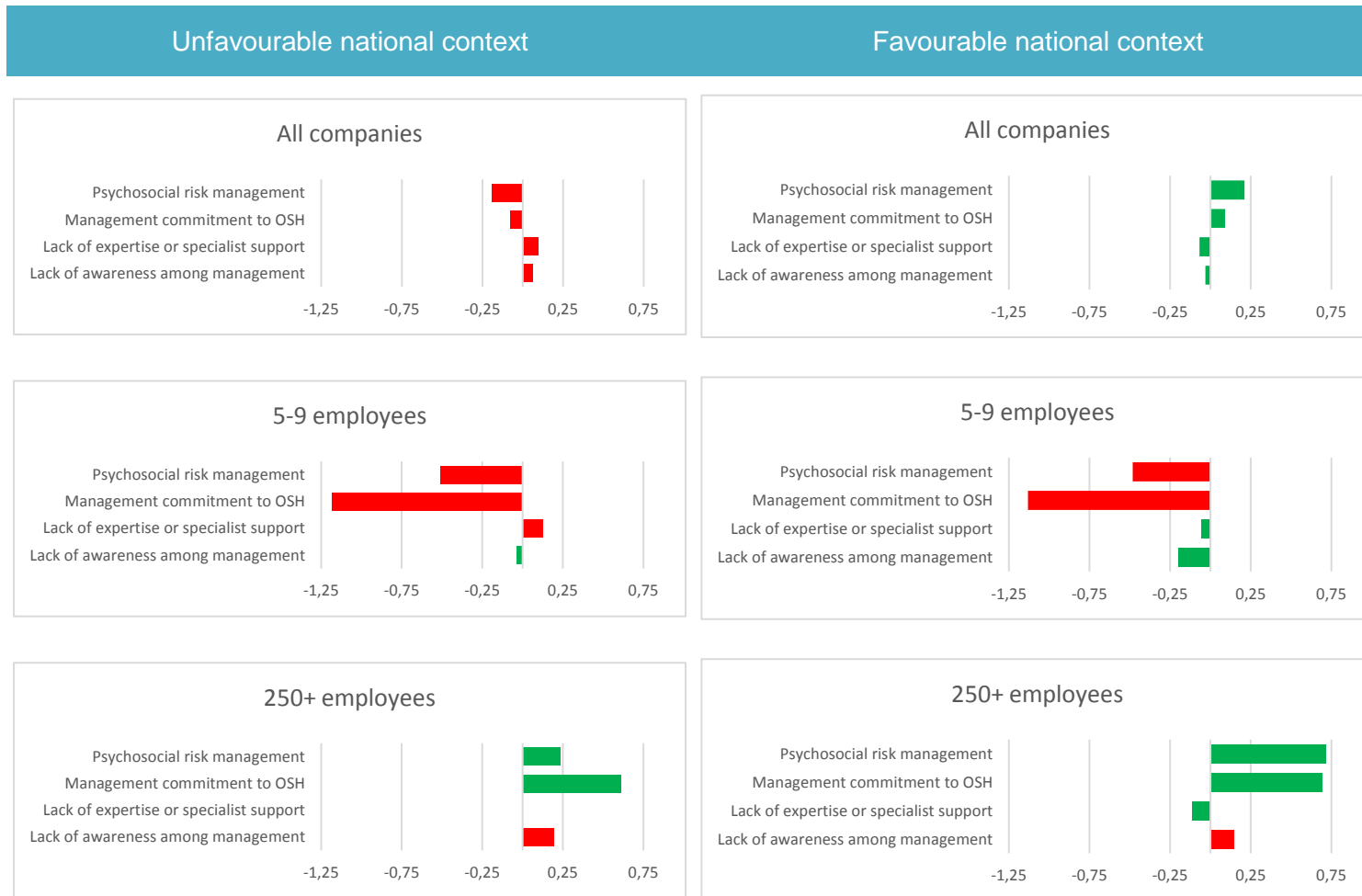


Figure 16 shows psychosocial risk management and the prevalence of the main drivers and barriers in companies of all sizes, in small organisations with five to nine employees, and in big organisations with 250 employees or more, in a favourable national context and in an unfavourable national context. The figure suggests that psychosocial risk management in small organisations is not affected by the national context. Differences in the prevalences of the main drivers and barriers are small as well. The most important driver of psychosocial risk management that we identified in the present study, management commitment to OSH, was present much less than average, irrespective of the national context. In general, management of psychosocial risks seems to be poorer in small organisations, meaning that fewer measures are in place to deal with these risks, while drivers are less prevalent and barriers are more prevalent, irrespective of the cultural context. In contrast, large organisations have more measures in place to deal with psychosocial risks, even when the cultural context is unfavourable.

In organisations with 10 to 49 employees the level of psychosocial risk management and management commitment is better than in the very small companies, but still below average, even in a favourable national context. However, in organisations with 10 to 49 employees the national context seems to matter more than in smaller organisations. In countries with a favourable national context, we see more psychosocial risk management and a higher prevalence of most drivers, while barriers are reported less often.

The results for organisations with 50 to 249 employees show that, in general, management of psychosocial risks seems to be more favourable in these type of organisations than in smaller organisations: more measures in place to deal with these risks, more drivers and fewer barriers. The differences between countries with favourable and unfavourable national contexts are larger than in the smaller organisations. Psychosocial risk management is above average in countries with a favourable national context, while it is below average in countries with an unfavourable cultural context. Management commitment to OSH is considerably greater than in smaller organisations, irrespective of the cultural context.

In summary, the national context appears to be related to differences in psychosocial risk management in organisations of all sizes, except small organisations with five to nine employees. The finding that large companies have more measures in place to deal with psychosocial risks, shown in Figure 15, is less strong in countries with an unfavourable national context.

4.5.2 Sector

Earlier analyses of ESENER-1 showed differences between sectors in the management of psychosocial risks. In the present study too, sector differences were found. Figure 17 shows psychosocial risk management for seven types of industry ⁽⁵⁾. Psychosocial risk management is highest in sectors such as education, health and social work, and lowest in agriculture. However, differences in size (see Figure 4.6) are more prominent than differences in sector. Since our main interest is the influence of the national context, we shall examine if differences between a favourable and an unfavourable context also can be found in organisations within the same sector.

(5) The classification into seven sectors was based on a standard ESENER classification. For more accessible presentation of the results, we preferred this classification instead of the more detailed classification into 19 sectors, which we used for the multilevel model (see 3.1.2).

Figure 17: Standardised prevalence of PSR management for different types of industry

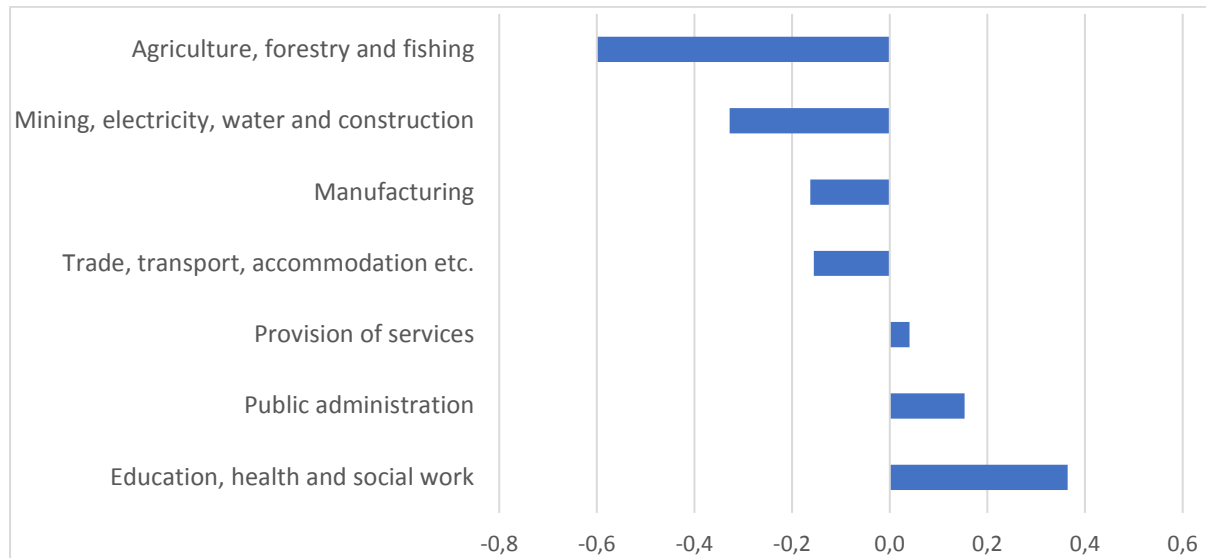


Figure 18 shows the big contrast in psychosocial risk management and the prevalence of drivers and barriers in organisations in the sector of agriculture, forestry and fishing and the sector of education, health and social work, in a favourable national context (low PD and UA) and in an unfavourable context (high PD and UA). The low level of psychosocial risk management in the sector of agriculture, forestry and fishing was shown in Figure 17. Figure 18 shows that most drivers of psychosocial risk management are also low, in countries with a favourable national context as well as in countries with an unfavourable context. The national context does not seem to matter much in this sector.

In contrast, in the sector of education, health and social work, psychosocial risk management is above average, even in organisations in an unfavourable national context. Nevertheless, Figure 18 shows differences with regard to the national context, with a higher psychosocial risk management and a higher prevalence of drivers in a favourable national context. Barriers are present as well. Lack of money is often reported, in particular in an unfavourable national context.

In addition, we found that:

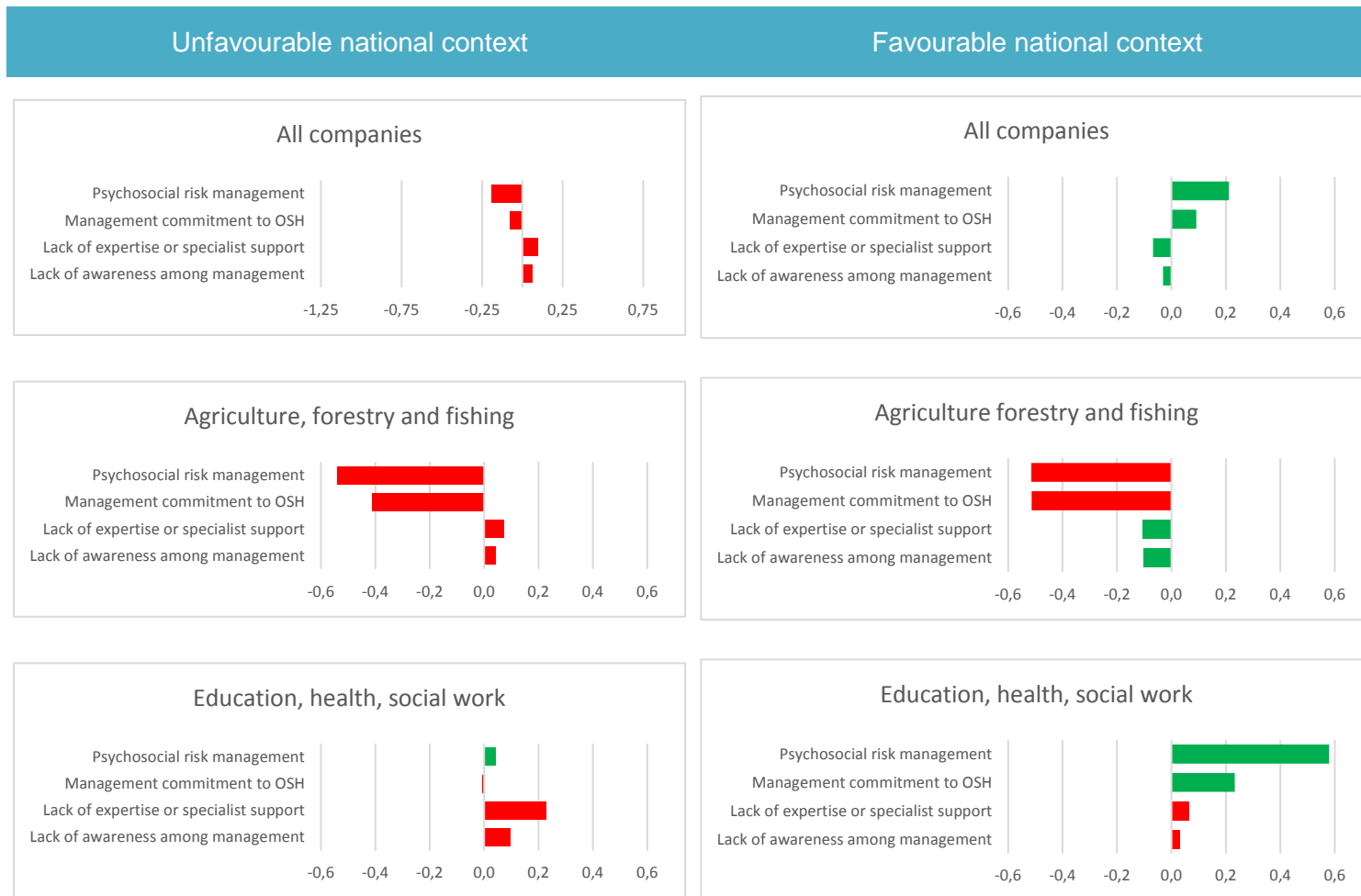
- The results of organisations in the sector of mining, electricity, water and construction are somewhat comparable to those of organisations in agriculture, forestry and fishing. However, the situation in the sector of mining, electricity, water and construction with regard to psychosocial risk management is somewhat more favourable. Also in this type of industry we see differences between organisations in a favourable and unfavourable national context: more psychosocial risk management, more drivers and fewer barriers in organisations in a favourable cultural context. Noteworthy in this sector is the almost complete absence of barriers.
- In the manufacturing sector, organisations have more measures in place to deal with psychosocial risks than in the sectors of agriculture, forestry and fishing and of mining, electricity, water and construction. In a favourable national context, psychosocial risk management is even above average. Also in a favourable national context, organisations report more drivers and fewer barriers. Noteworthy is the prevalence of reporting on the presence of psychosocial risks, which is average for organisations in a favourable national context, but very low in an unfavourable cultural context, which might indicate a lack of awareness among the respondents of the questionnaire.
- Results for the sector of trade, transport, accommodation, food and entertainment show that, as in the sectors of agriculture, forestry and fishing and of mining, electricity, water and

construction, psychosocial risk management in this sector is below average, irrespective of the national context. The driver 'management commitment to OSH' is also below average, even in a favourable national context. The prevalence of other drivers and barriers is more in line with the general contrast between a favourable and an unfavourable national context.

- Figure 17 showed that psychosocial risk management is above average in organisations within the sector of provision of services. However, in an unfavourable national context, psychosocial risk management appears to be below average. Furthermore, in this context the prevalence of all drivers is below average, in contrast to organisations in a favourable national context. Management commitment to OSH is an exception. Although it is more prevalent in a favourable national context than in an unfavourable context, it is still below average.
- In general, psychosocial risk management in organisations in the public administration sector is above average. However, this high prevalence is mainly due to organisations within a favourable national context. Psychosocial risk management, as well as the presence of drivers, is below average in organisations in an unfavourable national context. Barriers are reported relatively often in this sector, mostly in organisations in an unfavourable national context, but also in a favourable national context, in particular lack of awareness among management.

In summary, national context appears to be related to differences in psychosocial risk management in organisations in all types of industry. However, in some sectors, the impact of the national context seems to be limited. In the sectors of agriculture, forestry and fishing, of mining, electricity, water and construction, and of trade, transport, accommodation, food and entertainment, even in a favourable national context, the level of psychosocial risk management is relatively low. In countries with an unfavourable national context, psychosocial risk management is below average in all sectors, with the exception of the sector of education, health and social work.

Figure 18: Psychosocial risk management and the most important drivers and barriers in a favourable or unfavourable context for different sectors



5 Conclusions and discussion of the results

In this study, we aimed to examine drivers of and barriers to effective management of psychosocial risks. Our main focus was the context in which organisations operate, in particular the national context. Research questions that were addressed in this study were:

1. Is the level of psychosocial risk management related to drivers and barriers at the organisational level?
2. What is the link between national culture and psychosocial risk management?
3. Is cultural context related to drivers of and barriers to psychosocial risk management and is the relationship between drivers and barriers and psychosocial risk management dependent on the cultural context?
4. What are types of organisations in terms of their approach to psychosocial risk management and in reference to factors that are related to psychosocial risk management, taking the context into account?

5.1 Main conclusions

5.1.1 *Drivers and barriers at the organisational level*

In the analysis, we included drivers and barriers that were related to general OSH management and not specifically to psychosocial risk management. Nevertheless, similarly to previous research, the results show that most of the investigated drivers and barriers at the organisational level are associated with psychosocial risk management. Management commitment to OSH was identified as the strongest driver of psychosocial risk management. Other drivers that were related to psychosocial risk management were the level at which the organisation reports on the presence of psychosocial risks, the level at which employees are involved in the design and implementation of measures after a risk assessment, and the presence of employee representation. In addition, the following reasons for addressing safety and health in general were also identified as drivers of psychosocial risk management: 'fulfilling legal obligation', 'meeting expectations from employees', 'maintaining or increasing productivity' and 'maintaining the organisation's reputation'.

The strongest barriers to psychosocial risk management were the lack of awareness among management and the lack of expertise or specialist support to deal with OSH in general. However, these associations were less strong than associations between drivers and psychosocial risk management. No relationship was found between psychosocial risk management and the mentioning of paperwork or the complexity of legal obligations as a difficulty in addressing safety and health in the organisation. Note that these barriers related to OSH in general and not specifically to psychosocial risks. Respondents were also asked if some factors made addressing psychosocial risks more difficult than addressing other health risks. However, these potential barriers were not related to psychosocial risk management.

5.1.2 *Link between national culture and psychosocial risk management*

The results of the present study show that psychosocial risk management within companies is related to two cultural context dimensions: power distance (PD) and uncertainty avoidance (UA). Low PD and low UA are associated with high levels of psychosocial risk management. The relation between psychosocial risk management and the cultural dimension masculinity is only weak.

Besides cultural dimensions, other factors concerning the national context were also taken into account: economic situation (GDP per capita), joint efforts of social partners and measures to implement the EU framework agreement on work-related stress. The results show that psychosocial risk management is also related to these other characteristics of the national context, namely that a better economic situation, more efforts by social partners and more measures to implement the EU framework agreement result in a higher level of psychosocial risk management.

All national context variables were strongly related to each other, with the exception of the cultural dimension masculinity. Joint efforts of social partners and measures to implement the EU framework agreement on work-related stress are more common in national cultures low on PD and UA and in countries with a high GDP per capita. Also, almost all countries with GDP above average are low on PD and UA.

In conclusion, all national context variables, including the cultural dimensions PD and UA, are related to psychosocial risk management, and all national context variables are related to each other. However, the causality of the relation is not altogether clear in this complicated context. Based on the current research, it is not possible to establish which factor of the national context is the most important for psychosocial risk management.

It is possible that the initiatives in the field of OSH in general, and psychosocial risks in particular, are influenced by both a favourable economic situation and a favourable cultural climate. As we described earlier in the theoretical background, we found indications of these relations in the literature. Several studies have found indications of a relationship between the national culture and the psychosocial work environment (Moncada et al., 2010; Lok and Crawford, 2004; Chen, 2004). The possible impact of the economic situation on national initiatives in the field of OSH and psychosocial risks is less clear, but it is plausible that a poor economic situation may lead to less budget for these initiatives (see also section 2.1.4). However, it is still unclear, and out of the scope of the present study, how culture and economic situation are related to each other.

5.1.3 Relation of cultural context with drivers and barriers and their possible impact on psychosocial risk management

Although the level of psychosocial risk management appears to be related to national cultural dimensions, national culture was not, or only weakly, related to drivers and barriers at company level. This result seems to indicate that the possible impact of culture on psychosocial risk management cannot be explained by the impact of culture on the drivers and barriers we defined in the present study. Possibly, culture has a direct relation with the way psychosocial risks is dealt with in companies. Also, culture may have an influence on other drivers and barriers, which were not included in the analyses.

In addition, the relationship between drivers and barriers and psychosocial risk management does not appear to be dependent on the national context. A consequence of this result is that we have no indication that different interventions related to drivers and barriers are needed in countries with different cultural contexts.

5.1.4 Typologies of organisations

Apart from the national context, company characteristics such as size and sector also have their influence on psychosocial risk management and its drivers and barriers. In the present study, we examined the level of psychosocial risk management and the prevalence of its drivers and barriers in companies of different sizes and in different types of industry in favourable and unfavourable national contexts. The strong relation between the context variables enabled a distinction between favourable and unfavourable contexts for psychosocial risk management. This distinction was based on the cultural dimensions PD and UA, but a distinction based on the economic situation or national initiatives would lead to similar results, because of their strong correlation.

The results show that the national context matters in organisations of all sizes, with the exception of small organisations with five to nine employees. These small companies have fewer measures in place to deal with psychosocial risks and have fewer drivers of dealing with safety and health risks, irrespective of the national context. Earlier in this report, we concluded that research has already shown the poorer quality of OSH management in smaller companies. Previous research also indicated that non-compliance with OSH regulation is relatively high in small companies. This fact would explain our finding that national contexts associated with better OSH regulation have little effect in small companies.

National context appears to be related to differences in psychosocial risk management in organisations in all types of industry. However, in some sectors, the impact of the national context seems to be limited. In the agriculture, forestry and fishing sector and the sectors of mining, construction, electricity, trade, transport, and accommodation and food, the unfavourable situation with regard to psychosocial risk management is also present in a favourable national context. An explanation for this finding might relate to the large proportion of small organisations in these sectors. Overall, the percentage of very small companies (5-9 employees) is 11 % and that of small companies (10-49 employees) is 32 %. In these sectors, the percentage of very small companies ranges from 17 % to 27 % and that of small companies from 41 % to 45 %. Earlier we concluded that, in small companies, national initiatives seem to have less effect.

In an unfavourable national context, psychosocial risk management is below average in all sectors, with the exception of the education sector and the health and social work sector. In these sectors, we also see that important drivers such as management commitment, employee representation and 'meeting expectations from employees' are more prevalent, including in an unfavourable national context. This might be due to the relatively high proportion of large organisations in this sector. However, organisations are also larger in the sectors of manufacturing and public administration, where psychosocial risk management is clearly below average in an unfavourable national context. A possible explanation of the high level of psychosocial risk management and its drivers is the higher level at which the presence of psychosocial risks is reported. On the other hand, this higher-level reporting could also point to a higher awareness of psychosocial risks in this sector.

5.2 Methodological issues

5.2.1 Validity of national cultural values

The country dimensions used in the present study originate from Hofstede (2003; Hofstede, Hofstede and Minkov, 2010). Hofstede's dimensions have had a great impact on studying culture, and his work is among the most used studies in the field of culture (Sivakumar and Nakata, 2001; Taras, Steel and Kirkman, 2012). However, Hofstede's framework also has had critiques. Søndergaard (1994) has analysed reviews of *Culture's Consequences* (Hofstede, 1980), and some limitations to Hofstede's work were pointed out.

Hofstede's study is based on only one company, IBM, and researchers suggest that studies restricted to only one company are not able to provide information on the entire cultural system of a country (Graves, 1986; Søndergaard, 1994; Olie, 1995). In relation to this argument, Hofstede replied that it was not his intention to make absolute measures and that using one multinational employer eliminates effects of corporate policies and management practices, leaving only national culture to explain the cultural differences (Hofstede, 2003). Also, Hofstede found the same country scores in another study, which was carried out in 1973-1979 in an international business school unrelated to IBM (Hofstede, 2001).

Moreover, some reviewers questioned if the dimensions developed from the collected data were artefacts of the period of analysis, namely 1967-1969 and 1971-1973. With regard to the timebound nature of the cultural values, Hofstede states that 'culture change basic enough to invalidate the country dimension index scores will need either a much longer period – say, 50 to 100 years – or extremely dramatic outside events. Differences between national cultures at the end of the last century were already recognizable in the years 1900, 1800, and 1700, if not earlier. There is no reason they should not remain recognizable until at least 2100' (Hofstede, 2001, p. 36). In addition, Smith and Bond (1999) conclude that large-scale studies published since Hofstede's work have sustained and amplified Hofstede's dimensions rather than shown they were no longer reliable.

Taras, Steel and Kirkman (2012) carried out a meta-analysis of Hofstede's dimensions based on 451 empirical studies. They conclude that cultural change is not uniform across countries. In general, we see a decrease in PD, masculinity and UA, but the decline is most noticeable in 'newer democracies', places where changes in political and economic systems have occurred. In 'older democracies', such as in western Europe, changes are hardly noticeable. We checked the national cultural scores of countries involved in the present study, as far as they were available in the meta-analysis of Taras, Steel

and Kirkman (2012). Although some differences were found, we could not detect systematic differences in the cultural scores over time.

It is hard to predict what consequences a shift in cultural values would imply. Possibly, some countries may have been misclassified in their cultural dimensions. The high degree of correlation between the cultural dimensions and the national context (GDP, joint initiatives of social partners and measures to implement the EU framework agreement on work-related stress), as well as company characteristics in terms of drivers and barriers, might suggest that cultural values of countries were not changing very much, at least not relatively. This is particularly true of PD and UA. The pattern of associations with masculinity is less clear. A possible explanation might be that masculinity consists of two components instead of one: gender egalitarianism (less in masculine countries) and achievement orientation (more in masculine countries) (Taras, Steel and Kirkman, 2012). The effect of gender egalitarianism and achievement orientation on OSH or psychosocial risk management is not studied separately, but it can be rationally argued that the two components may have different effects. However, no studies of the separate components are known to the authors.

5.2.2 Drivers of and barriers to OSH in general or for PSR management

Drivers at the organisational level were derived from the ESENER-2 dataset. In contrast with ESENER-1, ESENER-2 asked about many drivers only in relation to general OSH management. The only driver directly related to psychosocial risks is the question about the presence of these risks in the company. Nevertheless, we found statistically significant associations between drivers of OSH and psychosocial risk management. This result might be related to results from ESENER-1 (EU-OSHA, 2012b), which we described earlier in section 2.1.1. The present report defines 'good' OSH management as the most important driver of psychosocial risk management and concludes that drivers of psychosocial risk management are to a large extent similar to drivers of general safety and health management. The consequence of the lack of specific drivers of psychosocial risk management in the present study is that we might have overlooked important drivers.

Barriers in the present study were derived from the ESENER-2 dataset as well. Like the drivers, barriers were asked about in relation to addressing safety and health in general. It is unclear if barriers to psychosocial risk management are similar to those for OSH management in general. In the present study, lack of awareness among management and lack of expertise or specialist support were identified as the most important barriers. Earlier analyses on the ESENER-1 dataset identified similar barriers to psychosocial risk management, i.e. lack of expertise and lack of technical support. However, only those managers that indicated that it is more difficult to tackle psychosocial risks than other safety and health issues were asked the question on these barriers (EU-OSHA, 2012b). Therefore, it is unclear if we tackled the most important barriers to psychosocial risk management.

5.2.3 Awareness of psychosocial risks as a driver of PSR management

In section 2.1.1, we concluded that awareness of psychosocial risks is an important driver of PSR management and can be considered the first step. In the present study, we also wanted to examine if awareness of these risks was associated with psychosocial risk management. A problem is that it is not easy to measure 'awareness'. 'Lack of awareness' on the part of some parties (management, staff, workers) may be assessed by asking third parties about it. However, to measure the degree of awareness of the participants in ESENER-2 (the person in the company who 'knows best about health and safety'), may be considered difficult. To approximate awareness somewhat, the question on the presence of risks might be used. Awareness of risks is a condition for acknowledging the presence of risks. However, treating acknowledgement of the presence of risks as awareness comes with methodological problems. Awareness of risks may also be low or absent just because these risks are not present in the respondent's company. Hypothetically, the absence of these risks may even be due to the excellent psychosocial risk management of the company, which would suggest an inverse association (low awareness, high psychosocial risk management). Therefore, we conclude that our dataset does not allow us to draw conclusions on the association between awareness and psychosocial

risk management, although the association between 'presence of psychosocial risks' and psychosocial risk management seems to give an indication.

5.2.4 Limitation of the study design

Although our theoretical framework suggests causal relationships, we were not able to test these in the present study. One of the conditions of a causal relationship is that the cause precedes the effect. However, the ESENER-2 dataset contains only cross-sectional data. Therefore, we cannot verify if the drivers that were significantly associated with psychosocial risk management actually have an effect on psychosocial risk management, or if psychosocial risk management affects the occurrence of these drivers.

5.3 Practical implications

- Several conclusions can be drawn from this study for practice. An important result is that the national context matters: the level of psychosocial risk management was found to be higher in countries with a favourable national context than in countries with an unfavourable national context. This suggests that certain cultural dimensions and the national initiatives are important in shaping the management of psychosocial risks in the workplace. Although the cultural dimensions are hard to change, the national initiatives such as joint actions of social partners, changes in the legal framework, campaigns and sector-specific activities should be strengthened.
- It was hypothesised that the importance of (some) organisational drivers of and barriers to psychosocial risk management will also be dependent on the cultural context, which would demand a differentiated approach to stimulate psychosocial risk management. However, the results did not support this hypothesis, suggesting that the importance of certain organisational characteristics is the same independently of the national context. In general, the drivers appear more important than the barriers (which were rather weakly related to the level of psychosocial risk management); in particular, the results showed that:
 - Management commitment is the strongest driver of psychosocial risk management.
 - Formal employee involvement (in a works council, in a safety and health committee, as trade union representatives or as safety and health representatives) and informal employee involvement (e.g. in design and implementation of measures after a risk assessment) also appear to be drivers of psychosocial risk management.
 - Actions towards better psychosocial risk management may be taken by employers, employees (representatives), social partners and sector organisations. However, national initiatives are also conceivable. For example, management commitment may be encouraged by awareness campaigns, and employee involvement may be stimulated by legislation.

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Annex 1 – Country abbreviations

AT	Austria
BE	Belgium
BG	Bulgaria
CH	Switzerland
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
EL	Greece
ES	Spain
FI	Finland
FR	France
HR	Croatia
HU	Hungary
IE	Ireland
IS	Iceland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
NO	Norway
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom

Annex 2 – Focus group participants

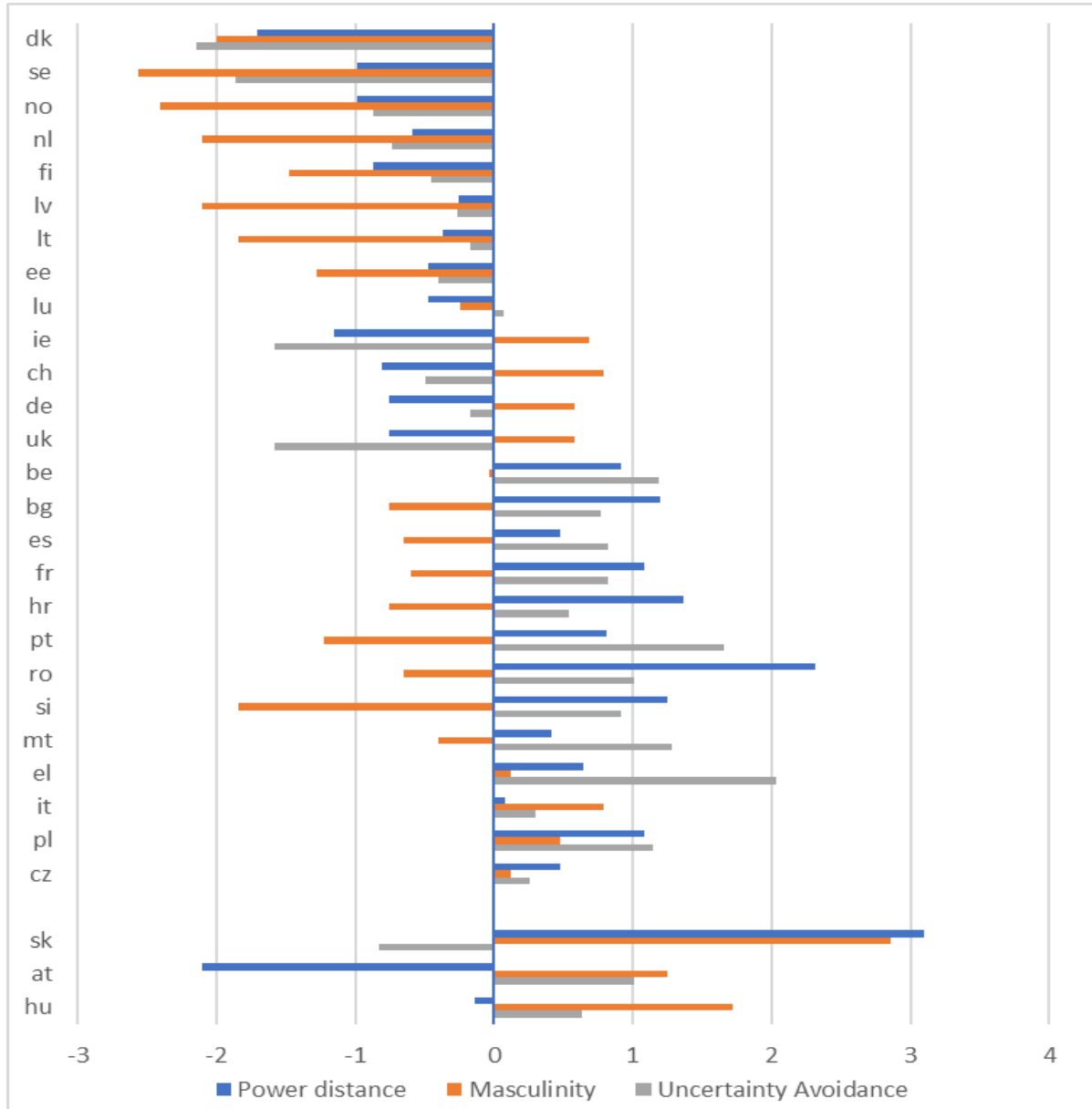
Table 10: Focus group participants

Name	Organisation	Country	Expertise
Vincent Grosjean	Institut National de la Recherche Scientifique (INRS)	France	Dr Grosjean is a senior researcher at INRS in the department of Working Life, Ergonomics and Work Psychology applied to health and safety at work. He has considerable experience in the field of well-being at work.
Michael Ertel	Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (BAuA)	Germany	Mr Ertel is a researcher and policy advisor at BAuA. He has considerable experience in research on work, psychosocial factors and health.
Birgit Aust	National Research Centre for the Working Environment (NRCWE)	Denmark	Dr Aust is a senior researcher at the NRCWE and an expert in the field of workplace interventions to improve psychosocial work environment, psychosocial strain and work-related health
Irene Houtman	TNO Work Health Technology	Netherlands	Dr Houtman is a senior researcher at TNO. She has considerable experience in the field of work, stress and health, and research into monitoring and evaluating social issues.
Dorota Żołnierczyk-Zreda	Central Institute for Labour Protection (CIOP)	Poland	Dr Żołnierczyk-Zreda is a senior researcher at CIOP-PIB (Central Institute for Labour Protection - National Research Institute), Occupational Psychology and Sociology Laboratory. She has considerable experience in research on work, stress and health.
Sergio Iavicoli and Cristina Tecco	Istituto nazionale per l'assicurazione contro gli infortuni sul lavoro (INAIL)	Italy*	Dr Iavicoli is a senior researcher and currently Director of the Research Department of INAIL in Occupational Health. His main area of research is focused on psychosocial risks. Dr Di Tecco is a researcher in occupational psychology working in the same department.

* The Italian experts did not join the focus group but provided their input in writing afterwards.

Annex 3 – Culture clusters

Figure 19: Country clusters Standardised scores on the cultural value dimensions (country abbreviations are shown in Annex 1)



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 1994 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 Member States and beyond.

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