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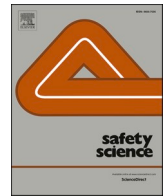
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# National Policy Index (NPI) for worker mental health and its relationship with enterprise psychosocial safety climate

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## ABSTRACT

National occupational health and safety (OHS) policy (e.g., legislation) underpins worker health protection and is imperative for healthy and safe working populations. In the interest of bolstering mental health through decent work, this study undertakes a global analysis of OHS policy for worker mental health and develops and validates a short tool quantifying national policy approaches—the National Policy Index (NPI, for worker mental health). Data were collected across 45 countries from 164 global experts (and/or expert groups) to capture policy presence, priority action areas, and drivers and barriers surrounding policy implementation. Analysis revealed top global psychosocial concerns are harassment, mobbing or bullying, work overload, discrimination, and poor work-life balance. Policy priorities are harassment, mobbing or bullying, discrimination, and physical violence. The psychosocial hazards/risks that are most addressed in policies or regulated are physical violence, discrimination, harassment, mobbing or bullying. The main driver for managing hazards is workplace senior management support and having specific national regulations, and the main barrier is poor resource availability. Further, the NPI was developed through exploratory factor analysis and validated through significant correlation with a national policy audit and to the 2019 European Survey of Enterprises on New and Emerging Risks data, which reports enterprise level psychosocial safety climate (PSC, organisational policies, practices, and procedures for stress prevention). The correlation between the NPI and enterprise-level PSC highlights the critical role of national policy in protecting worker population mental health. Yet above and beyond national policy, national union density also related to enterprise PSC indicating that social action is also imperative. Findings suggest that global mental health can be reinforced via decent work outlined in national policy approaches, particularly legislation, as well as via senior management support, and collective approaches such as union action.

## 1. Introduction

Mental ill health is a global public health crisis (Patel et al., 2018) yet approaches to reduce the prevalence and burden of poor mental health have been largely ineffective. In this paper we argue that national policy is the foundation of worker health standards via work conditions, which can therefore uplift population health. To date there is little systematic evaluation of the efficacy of such policies and no tool to investigate whether national policies correspond with good mental health policies,

processes, and procedures in the workplace. Having a better understanding about the role of national OHS policy and its workplace implications will move the field forward – and may provide inspiration to policy makers, employers, and unions for national action. The purpose of this research therefore is to address work-related mental health by focusing on the broader ecological system in which individuals operate via their national OHS policy context and psychosocial working conditions.

The current study builds on relevant foundational studies on this

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topic. The first study, by [Dollard and Nesar \(2013\)](#), drew on various national databases to validate a theoretical model showing that union density impacted enterprise psychosocial safety climate (PSC), which in turn related to worker self-reported health and then national gross domestic profit (GDP). The second study, by [Jain et al. \(2022\)](#), found that having specific laws for psychosocial risks and/or work-related stress is related to organisations implementing action plans to prevent work-related stress, and in turn, better psychosocial working conditions (job demands and resources), and less reported work-related stress in the workforce. Except for these two studies, there is a dearth of other research exploring national OHS policy and its relationship with enterprise level psychological health (see [Potter et al., 2022](#) for review). Our study builds on these two studies together and makes discrete valuable additions to the literature. First, we explore enterprise influences beyond national legislation to include other OHS approaches (e.g., guidance material, sector-orientated initiatives), as well as trade union density; second, we develop a validated tool that can be used for future OHS policy evaluation efforts to ensure policies align with optimal outcomes for enterprise mental health; third, we report on data that has been acquired from high level global experts as to whether an array of OHS policies are in place in their respective country – perceptions of policy are important to acquire as they provide insight into implementation and awareness; and fourth, for the first time we collect and curate data that is internationally focused from 45 countries and state-of-the-art in comparison to previous studies based on legislative reviews.

### 1.1. Background

Mental health is a universal public good and a fundamental human right, according to the Lancet Commission on global mental health and sustainable development ([Patel et al., 2018](#)). The [World Health Organization \(2022\)](#) defines mental health as “a state of mental well-being that enables people to cope with the stresses of life, to realise their abilities, to learn well and work well, and to contribute to their communities.” Furthermore, mental health is more than the absence of mental disorder; it is an intrinsic component of our individual and collective health and wellbeing ([World Health Organization, 2022](#)). Yet from 1990 to 2019, mental disorders (e.g., depression) were consistently in the top ten leading causes of disease burden worldwide ([GMD 2019 Mental Disorders Collaborators, 2022](#)). The annual global cost of poor mental health is estimated to be \$2.5 trillion per year due to poor health and reduced productivity and is projected to rise to \$6 trillion by 2030 ([The Lancet Global Health, 2020](#)). Approaches to date have been ineffective in reducing the prevalence and burden of poor mental health, and there is a call for international partnerships “between academic institutions, United Nations agencies, development banks, the private sector, and civil society enterprises” to invest in and improve mental health ([Patel et al., 2018](#)(p1)). All countries are developing countries when it comes to mental health ([Patel et al., 2018](#)).

Work quality and conditions are increasingly recognised as critical shapers of world-wide mental health ([Benach & Muntaner, 2007](#)). For instance, a population-based cohort study ([Zadow et al., 2021](#)) established that long working hours and a poor enterprise psychosocial safety climate contributed to an increased risk of developing new major depression symptoms. Even for those who experience ongoing mental illness, retaining and returning to employment can be critical in improving mental wellbeing, primarily due to the increased sense of social inclusion and self-confidence in achieving work tasks ([Soberg et al., 2011](#)). Thus, improving work conditions can lift societal health ([Benach & Muntaner, 2007](#); [Peters et al., 2022](#)). Importantly, the International Labour Organization (ILO) recently recognised health and safety as a fundamental principle and right at work ([ILO, 2022](#)). Targeting work quality to improve global mental health is viable since almost half the global population engages in paid employment ([ILO, 2011](#)).

An integral component for ensuring optimal working conditions and

quality for mental health is mitigating work-related psychosocial hazards and managing psychosocial risks ([Leka et al., 2017](#)). Psychosocial hazards refer to aspects of work organisation, design, and management that have the potential to cause mental or physical harm such as work stress ([Cox et al., 1996](#); [Leka et al., 2017](#)). Psychosocial hazards include excessive workloads, high emotional demands, low autonomy, and role conflict, poor co-worker support, lack of managerial recognition, bullying and harassment, and occupational violence. While often used interchangeably in the literature, the term psychosocial risk denotes the potential of a psychosocial hazard to cause harm ([Leka et al., 2017](#)). Significant evidence establishes that exposure to psychosocial hazards/risks has adverse health implications, both mental (e.g., psychological distress) ([Hall et al., 2010](#)) and physical (e.g., musculoskeletal disorders) ([Li et al., 2015](#)), and broader negative ramifications at the enterprise and societal level ([Nieuwenhuijsen et al., 2010](#)) via mental illness and injury, worker injury compensation claims, medical costs, increased absenteeism, and presenteeism (i.e., reduced productivity) ([Richards & Bailey, 2014](#)). Therefore psychosocial hazards/risks should be prevented through various levels of intervention.

National occupational health and safety (OHS) policy frameworks represent a high intervention point and a country’s standard for working conditions, through delineating the requirement to manage psychosocial hazards/risks for the protection and promotion of mental health ([ILO, 2016](#)). While the term policy holds various conceptualisations it is generally defined as a course or method of action chosen by government, an institution, a group, or an individual from a range of options, to guide and govern decisions and actions ([Wies, 1994](#)). National policy is established on the basis of the will of political decision-makers to act on occupational health. Through investigating national policy it is possible to understand societal decisions made on issues that require solutions. In this paper the term policy refers to national OHS policies specifically in relation to mental or psychological health at work. As proposed in the theoretical framework below (see [Fig. 1](#)) ([Dollard et al., 2014](#); [Peters et al., 2022](#)), national policies are a critical instrument for influencing health and wellbeing and health-related outcomes.

Further, policy instruments are tools used to achieve certain outcomes that enable policy principles to be applied. These instruments exist in various forms such as legislation, standards, stakeholder/collective agreements, declarations, international and national agreements and strategies, social dialogue, practical guidelines and partnerships ([Leka et al., 2011](#)). OHS policy instruments can be categorised as either hard law (also referred to as legally binding or regulatory) or soft law (also referred to as voluntary, non-regulatory or non-legally binding). Hard law OHS policy instruments (e.g. legislation) are helpful in outlining obligations or duties in which there is a certain expectation of enterprise compliance. For instance, in Europe there is the Directive 89/391/EEC, which is legally binding for EU countries ([Iavicoli et al., 2011](#)). Soft law refers non-legally binding instruments such as guidance material. For example there is the ISO 45003 on psychosocial risk factors that is not legally binding, yet still a critical OHS policy for risk management in organisations ([ISO, 2021](#)).

Evidence shows that fulfilling legal obligations (i.e. hard law) is the major reason for enterprises to address health and safety, and motivates 88% of EU28 country enterprises to manage OHS ([Irastorza, 2019](#)). Reports by the European Agency for Safety and Health at Work (EU-OSHA) ([European Agency for Safety and Health at Work, 2017](#)) likewise found that legislation was a driver for psychosocial hazard/risk management within European enterprises. Moreover, [Jain et al. \(2022\)](#) found a positive effect of national legislation on enterprise-level action plans and individual-level work design. Their study which used data sets from the 2014 employer European Survey of Enterprises on New and Emerging Risks (ESENER) survey, and the 2015 employee European Working Conditions Survey established a significant association between national legislation and the prevalence of enterprise action plans that target work stress. In addition, studies evaluating national policy changes and interventions showed evidence of positive outcomes on

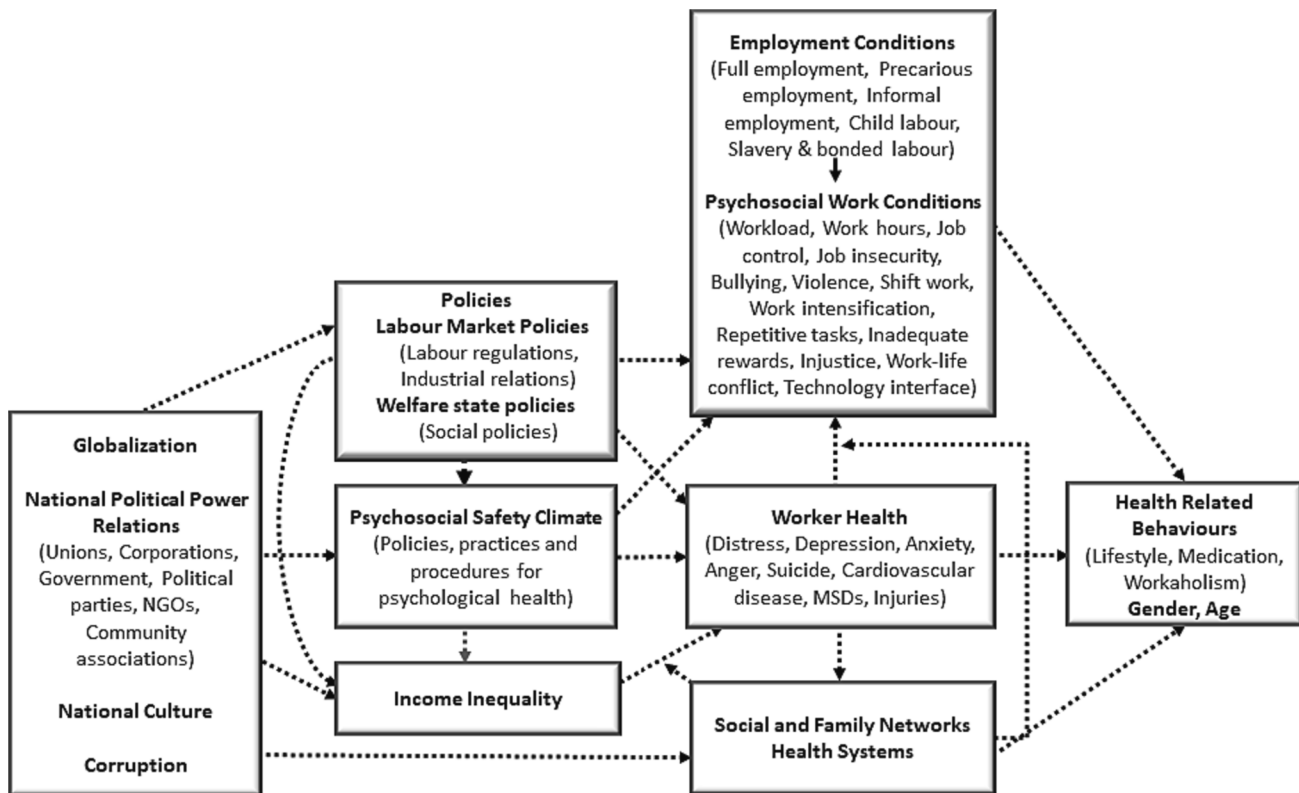


Fig. 1. Multilevel model of psychosocial factors at work (Dollard et al. (2014), reproduced with permission).

workers' mental health (Potter et al., 2017) associated with such changes. These findings demonstrate that national policy frameworks and approaches are vital for safeguarding mental health and safety as well as guiding enterprise practice.

However research investigating the role of policy on public mental health via the workplace is scant and mostly focuses on Europe (Potter et al., 2022). More international and evaluative policy research will highlight areas for knowledge transference and needed improvement in more emerging countries. A published international literature review (Potter et al., 2022) on the coverage of psychosocial hazards/risks in national OHS policy identified 26 publications (academic papers  $n = 23$ , grey literature  $n = 3$ ). The review indicated fifty per cent of studies were commentary-based papers and few sought inputs from stakeholders. Also, the review confirmed that there is no validated tool to evaluate the policy context systemically over time, and to assess the relationship between the national-level policy context and the organisational climate for worker mental health at the enterprise level. Finally, the review also found that research on national OHS policy has primarily concentrated on specific world regions (i.e., Europe), omitting regions where workers are arguably at most risk.

Moving forward in the global effort to improve mental health, it is important to map an international blueprint of OHS policy to identify mental health protections, and to determine whether all national policy context is conducive to optimal mental health outcomes at the enterprise level. This study undertakes a global analysis of occupational health and safety policy for worker mental health and validates a short tool that quantifies national policy approaches in the interests of bolstering mental health through decent work. To construct a global overview, a questionnaire will be developed to understand what policy initiatives exist by country, and assess the degree of concern, regulation and priority action that exists at a national level for various psychosocial hazards/risks. The questionnaire aims to illuminate relevant contextual information such as barriers and facilitators in implementing policy, and differing country and regional priorities. Data is collected from highly

regarded national stakeholders/experts in this area including national chief workplace inspectors, commissioners, leaders in federal ministries of labour, directors of trade unions, professors in labour law and mental health at work, from 45 countries, to provide state-of-the-art insights.

The goal of this research is to ascertain whether national policy could improve public mental health via the workplace. Specifically, how national policy relates to the enterprise climate for worker psychological health—psychosocial safety climate (PSC)—will be assessed. Assessing PSC is important since it is a 'cause of the causes' and negatively predicts future psychosocial hazards/risks, job design and working conditions that are precursors to mental ill health (Dollard, 2012). PSC reflects the enterprise's values and ethos of OHS approach to managing psychosocial hazards/risks. PSC concerns top management support for stress prevention and policies, practices, and procedures for the protection of worker mental health. Overall, the aims of this study are to (1) first provide an international overview of the national policy context for worker mental health and (2) validate a national policy evaluation tool. The study employs a quantitative design with two parts: first, the international analytical policy review, followed by validation of a policy evaluation tool. The next section is divided into Part 1 and Part 2, and encompasses its own method and results subsections.

## 2. Part 1: International analytical policy review

### 2.1. Method

#### 2.1.1. Procedure

The questionnaire was adapted from foundational work by Leka and Jain (ILO, 2016). The Delphi method was used with five experts from Australia, New Zealand, and the United Kingdom to significantly revise the questionnaire. Items were added to capture contemporary work issues such as digitalisation and several questions were removed to improve response efficiency. The draft tool was disseminated to three policy experts for feedback to discern item relevance and useability.

Data collection commenced in August 2021 and was finalised in February 2022. As many countries as possible were recruited, each with three expert evaluators with a high level of expertise or knowledge regarding their country's policy context and content in relation to work-related mental health. Participants were contacted through leads provided by (1) international members of the research team, (2) certain expert groups (e.g., EU-OSHA, ILO, European Trade Union Institute), or (3) through advertising in online newsletters. Participants were first contacted via email with participant information sheet and consent terms. Each participant received a follow up reminder email to complete the questionnaire. Participants were also asked to distribute the research invitation to other experts in this area. The questionnaire was also translated into Spanish and disseminated amongst a network of experts. Completing the questionnaire took on average 20 min. The project had UniSA Human Research Ethics Committee (HREC) approval.

### 2.1.2. Participants

A total of 172 complete surveys were obtained from across 45 countries. Of these, eight were excluded, seven did not meet the inclusion criteria of 'expert' and one due to the participant's country not being specified. The final sample consisted of 164 national experts, after all recruitment methods were exhausted. Participants included directors of trade unions, professors in labour law and mental health at work, national chief workplace inspectors, commissioners, and leaders in federal ministries of labour. It should be noted that individual participant responses often reflected a collective response from an entire national institution. Therefore, the weight placed on the sample size should be viewed with caution. A visual map reflecting the total sample by country is shown below, with the darker the colour indicating a higher number of participants (Fig. 2). See Appendix A for a list of the countries that participated and the frequency and percentage of the respondents (Table 1).

### 2.2. Measures

The questionnaire constructed for this study inquired about national binding (i.e., laws and regulations) and non-binding (i.e., voluntary) policy approaches, and types of policies (e.g., legislation) in that country. It also encompassed a brief evaluative component regarding the effectiveness of legislation and other policies, the kinds of hazards/risks (e.g., harassment) the policies cover, in addition to the drivers and barriers of national action to manage or prevent work-related psychosocial hazards/risks.

### 2.3. Statistical analysis

Data were analysed using SPSS. Descriptive analysis and visualisation are presented in Part 1. Details regarding NPI validation and regression processes are outlined in Part 2.

### 2.4. Results

Fig. 3 shows global coverage of laws pertaining to psychosocial hazards/risks and work-related mental health. The darker shaded countries, such as Australia, UK and New Zealand indicate that there are more stringent or relevant laws in place, whereas moderately shaded (e.g., China) have partial laws and other countries that are more lightly shaded grey (e.g., US, Russia) do not have laws in place. Partial laws refer to the fact that a country may have laws in place for a proportion of the country as opposed to the whole country, such as those that currently exist in Australia for example.

Fig. 4 shows the extent to which, (1) the psychosocial hazards/risks represent a concern or problem, (2) the level of being addressed in policies or regulated by laws, and (3) whether the various psychosocial hazards/risks represent an aspect for priority action. In relation to the level of concern that each psychosocial hazard/risk attracted, top

concerns are harassment, mobbing or bullying, work overload, discrimination, and poor work-life balance. Overall, most psychosocial hazards/risks scored above three, which indicates that most are a concern for participants. Harassment, mobbing or bullying, discrimination, and physical violence are the psychosocial hazards/risks representing the highest priority globally. By comparison, the degree to which each psychosocial issue was addressed in policies or regulated is rated lower. The psychosocial hazard/risk with the highest score for regulation or policy coverage is physical violence, discrimination, harassment, mobbing or bullying.<sup>1</sup> Of note, poor equipment design, shift work, discrimination, and harassment, mobbing and bullying have comparable levels of concern and regulation, whereas many other psychosocial hazards/risks reflected a much greater discrepancy between these two aspects.

The top three drivers for the management of work-related psychological/mental health and psychosocial hazard/risk management are senior management showing support, having specific national regulations that target psychosocial hazards and risks, and how well the enterprise integrates psychosocial issues into their systems (i.e., culture, policies). Considering the barriers, the highest-rated aspects are availability of resources, lack of senior management showing support and having a poor understanding of psychosocial factors in the workplace (see Fig. 5).

Barriers for the management of work-related psychological/mental health and psychosocial hazards/risks were averaged for each world region (see Fig. 6). For Oceania, the greatest barriers are poor understanding of psychosocial hazards/risks, and availability of resources. For Asia and Europe, the highest barrier is availability of resources. The greatest barriers for North America are the availability of resources and the presence of infrastructure, and for Central and South America, it is the availability of resources and adequate enforcement of regulations.

In relation to drivers for the management of work-related psychological/mental health (see Fig. 7), for Oceania, the highest drivers are integration of the issues in the company, closely followed by senior management showing support. For Asia, the strongest drivers are also senior management showing support as well as the integration of issues into the company. For Europe and North America, the highest driver is senior management showing support. For Central and South America, having specific regulations is the highest-ranking driver.

## 3. Part 2: Validating the NPI and determining its relationship with psychosocial safety climate (PSC)

### 3.1. Method

#### 3.1.1. Procedure

The second part of this study aimed to develop a shortened and validated version of the questionnaire that can be used as a tool to assess national policy. The relationship between national policy progress and the PSC of enterprises was investigated within 22 European countries. To verify the NPI tool, factor analyses were conducted and items were correlated with policy analysis data provided by Jain et al. (2022).

### 3.2. Measures and data sources

**Initial Items for the National Policy Index (NPI).** Eight items were selected that reflected national policy approaches which comprised our base policy survey: 1. Policy Priority in Country, 2. Specific Laws; 3. Available Guidelines; 4. Nation-wide Initiatives; 5. Sector-orientated Initiatives; 6. National Surveys or Studies; 7. Training of WHS

<sup>1</sup> Harassment, bullying, and violence are also covered by antidiscrimination laws, which is why they have been reported more frequently.

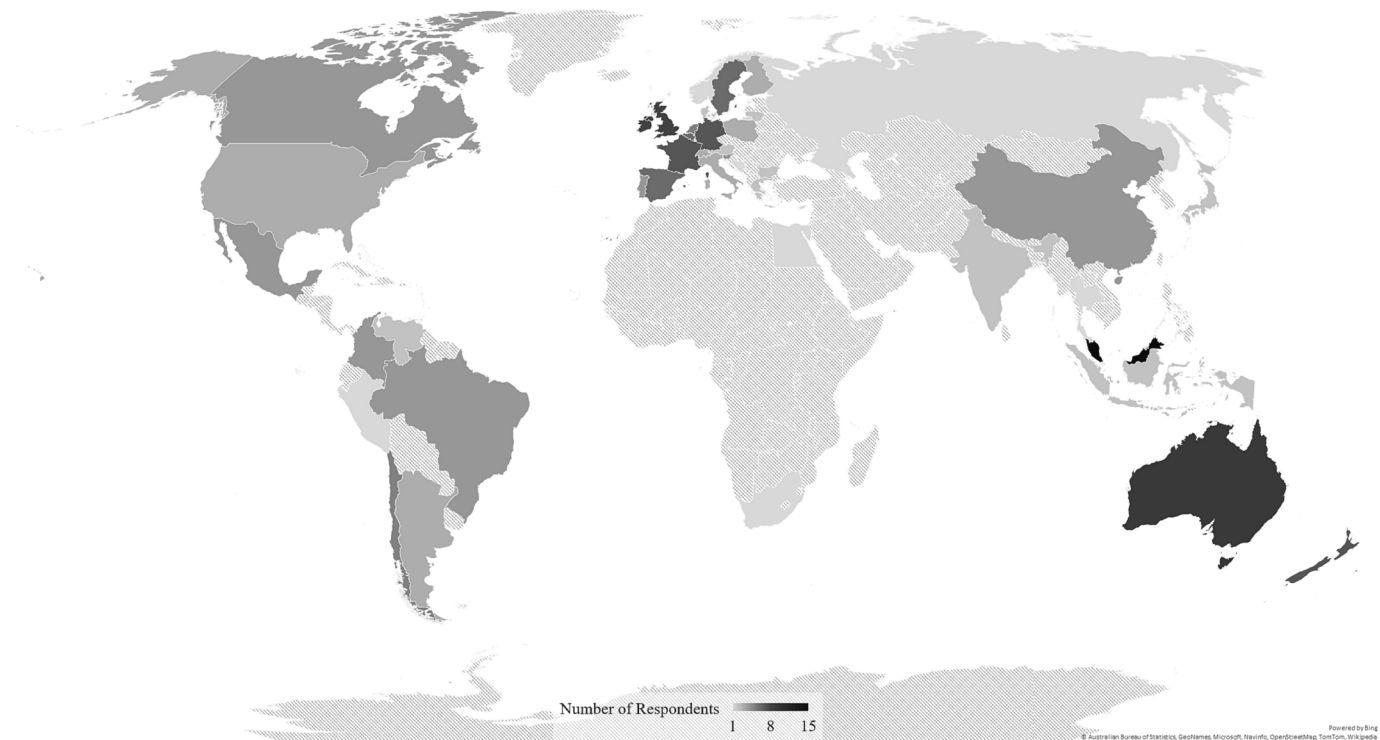


Fig. 2. World map showing participants' reference country.

**Table 1**  
Number and percentage of participants according to role.

Participant Role under General Categories	N	Percentage of Sample
Academics or Researchers	83	50.6%
OHS/Labour/Inspectors/Regulators	33	20.1%
Consultants and Trainers	15	9.1%
Psychologists	9	5.5%
HR Professionals	3	1.8%
Lawyers/Legal Advisers	3	1.8%
Medical Professionals	3	1.8%
Unions	2	1.2%
Health Promotion professionals	1	1.2%
Employers' Groups	1	0.6%
Industrial Relations Officers	1	0.6%

Note: some participants (5.5%) were unable to be allocated to an occupation group due to insufficient information.

Personnel; 8. Training of HR Personnel.

<i>Initial Items for the National Policy Index (NPI) for Worker Mental Health</i>	
1.	*Do you think work-related psychological/mental health is a policy priority in your country?
2.	*Is there a specific law(s) which regulates work-related psychosocial hazards/risks and/or work-related psychological/mental health in your country? Psychosocial hazards refer to aspects of work enterprise, design and management and interpersonal relationships at work that have the potential to have a negative impact on workers' health, safety, and well-being.
3.	Are you aware of any guidelines for the management of psychosocial hazards/risks and/or work-related psychological/mental health in your country?
4.	*Are there any nation-wide initiatives in your country that address psychosocial hazards/risks and/or work-related psychological/mental health?
5.	*Are there any sector-oriented initiatives in your country that address psychosocial hazards/risks and/or work-related psychological/mental health?
6.	*Are there national surveys or studies in your country that assess work-related psychosocial hazards and/or workplace risks to worker psychological/mental health?
7.	Do you think work health and safety personnel in your country are appropriately trained to identify workplace psychosocial hazards/risks and manage psychological/mental health at work?

(continued on next column)

(continued)

<i>Initial Items for the National Policy Index (NPI) for Worker Mental Health</i>
8. Do you think human resource personnel in your country are appropriately trained to identify workplace psychosocial hazards/risks and manage psychological/mental health at work?
Ratings were dichotomous, 0 for no, and 1 for yes, don't know = missing.

\*Note. Indicates items retained for the NPI.

**Jain et al data.** A rating of national-level legislation on psychosocial hazards/risks was garnered through a review of the academic and grey literature, the ILO LEGOSH database, and Eurofound and EU-OSHA country profiles (Jain et al., 2022). Ratings of national level regulation were dichotomous, 0 for no, and 1 for yes.

**PSC Proxy Measure.** Psychosocial safety climate is the attribute of an enterprise's climate that represents the enterprise standards associated with the protection and promotion of employee mental health and prioritised over productivity expectations (Dollard, 2012). More specifically, PSC is conceptualised as the enterprise's genuine regard for workers' mental health and safety, supported through the presence and enactment of protective policies, practices and procedures (Dollard, 2012).

ESENER data was used as an enterprise PSC proxy measure (Iraistorza, 2019). ESENER 2019 data is derived from interviews with "the person who knows best about health and safety in the establishment" about procedures to deal with psychosocial hazards/risks, and consultation and participation in the resolution of psychosocial hazards/risks in European workplaces. ESENER questions were only asked of participants working in enterprises of 20 to 100,000 employees. Following Dollard and Nesar (2013), questions were selected from ESENER as a proxy measure of PSC. Data were weighted with the factor empprop which adjusts for disproportionality of the national sample sizes for international analysis and is scaled to the number of interviews (European Agency for Safety and Health at Work, 2019) (scores were reversed

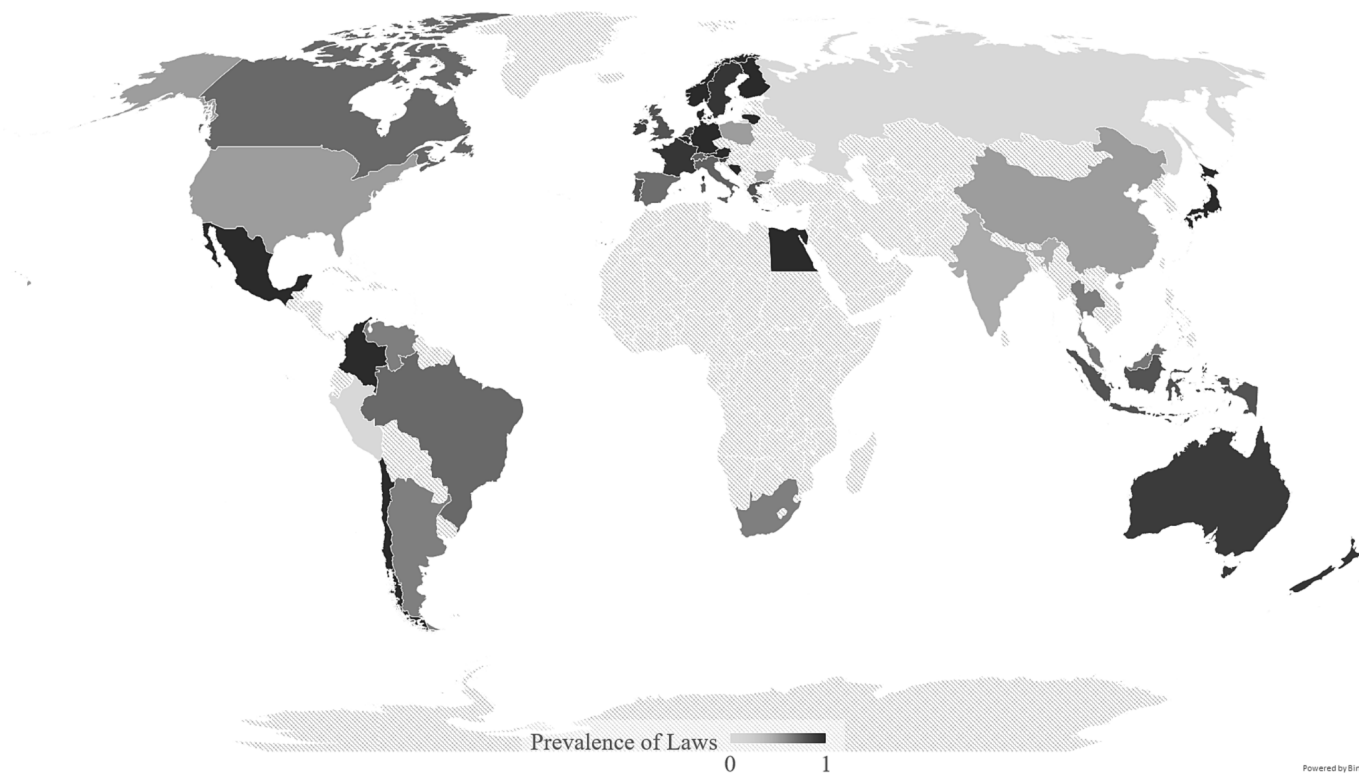


Fig. 3. Global map showing presence of national legislation relevant to psychosocial hazards/risks and mental health.

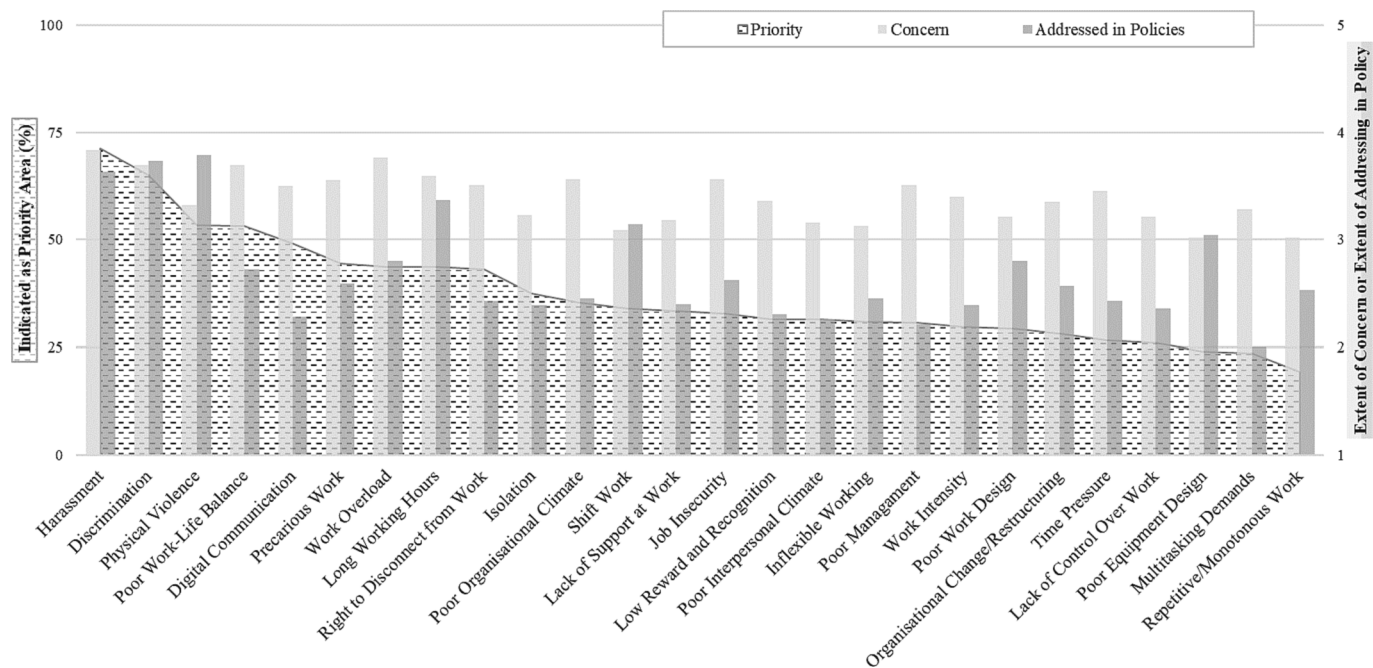


Fig. 4. Psychosocial hazards/risks by global priorities, level of concern and regulations.

to No = 0, Yes = 1, don't know = missing); Alpha is 0.69.

The PSC Proxy questions were: "The following questions are about psychosocial risks such a work-related stress or violence";

(1) "Does your establishment have an action plan to prevent work-related stress?"

(2) "Is there a procedure in place to deal with possible cases of bullying or harassment? Bullying or harassment occurs when employees or managers are

(continued on next column)

(continued)

abused, humiliated, or assaulted by colleagues or superiors"

(3) "And is there a procedure to deal with possible cases of threats, abuse or assaults by clients, patients, pupils or other external persons?"

(4) "Have employees been involved in identifying possible causes for work-related stress, such as e.g., time pressure or difficult clients?"

(5) "Did the employees have a role in the design and set-up of measures to address psychosocial risks?" (Asked of those reporting changes to the establishment to prevent risks).

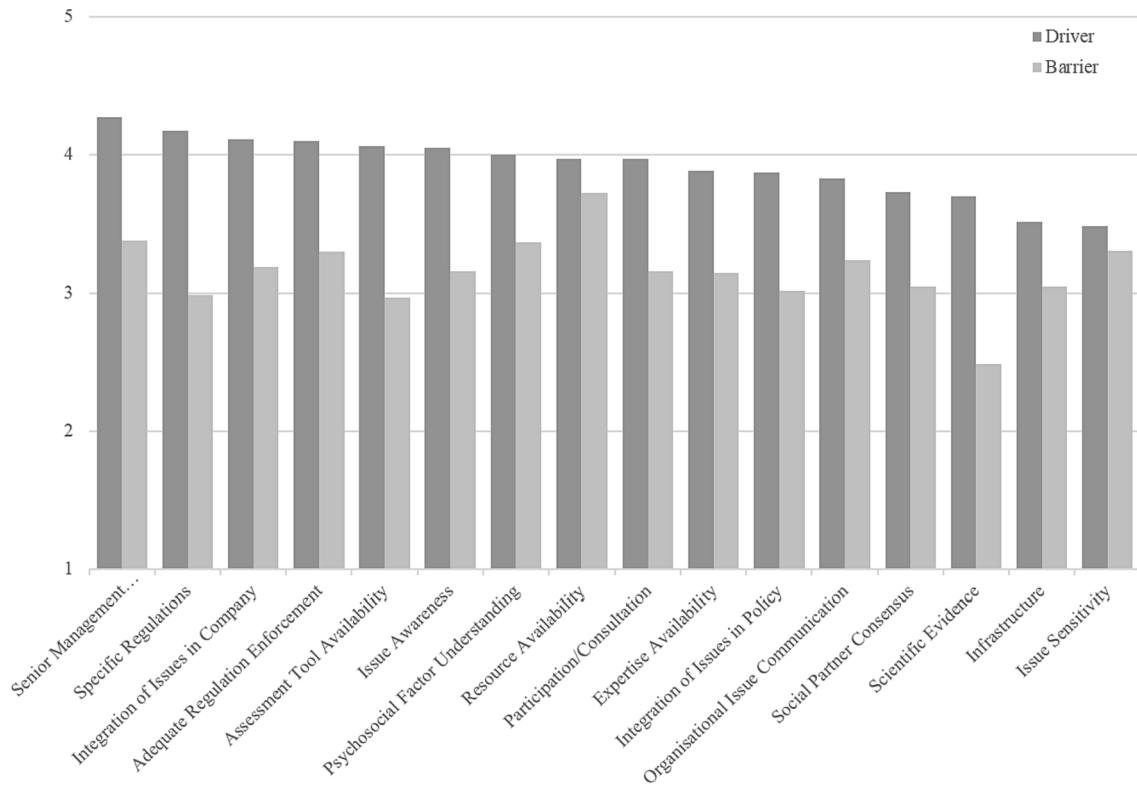


Fig. 5. Global overview of the barriers and drivers to managing work-related psychological/mental health.

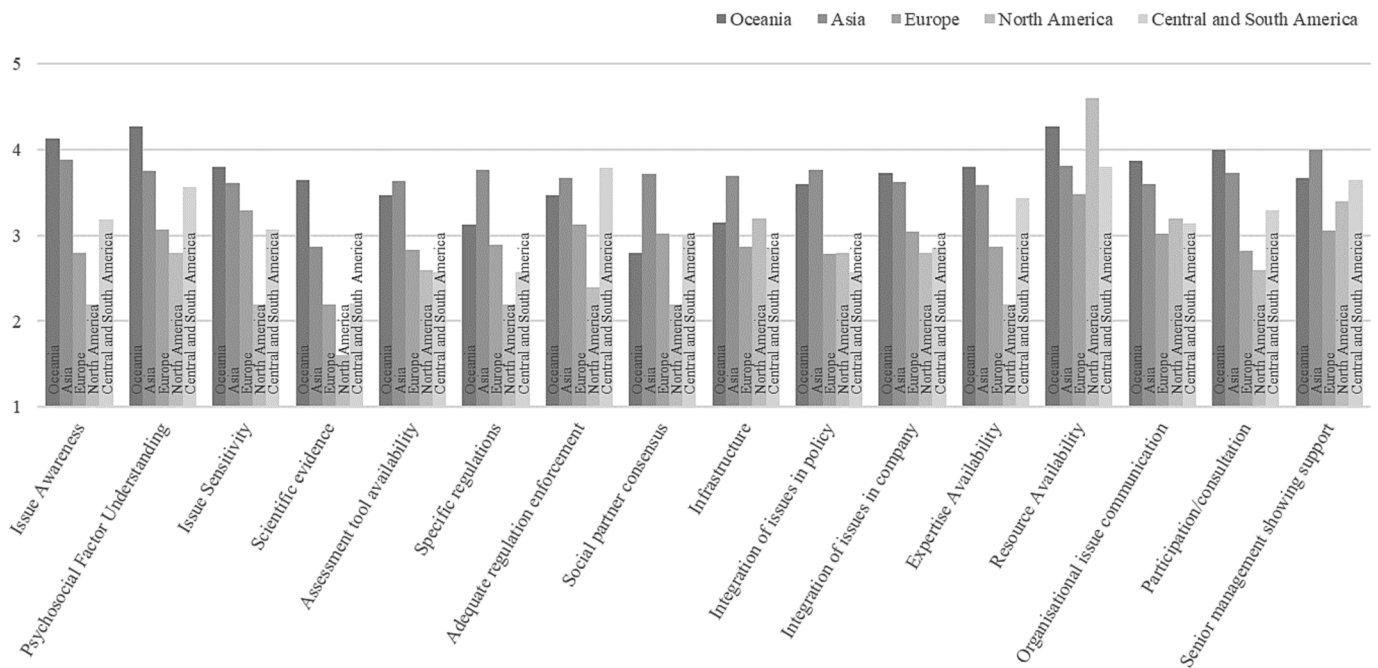


Fig. 6. Regional overview of the barriers to managing work-related psychological/mental health.

### 3.3. Statistical analysis

**Final Items National Policy Index (NPI).** A factor analysis of the policy items was conducted with varimax rotation and found that items loaded on two factors with eigenvalues greater than one: the first with 6 items (39% of the variance) the second with two items (18% of the variance) (see Table 2). These latter items (7 and 8) were removed. Next,

**Union density.** As stated in Dollard and Neser (2013), union density refers to “the percentage of the workforce that are union members”; national levels were assessed using data from the OECD.

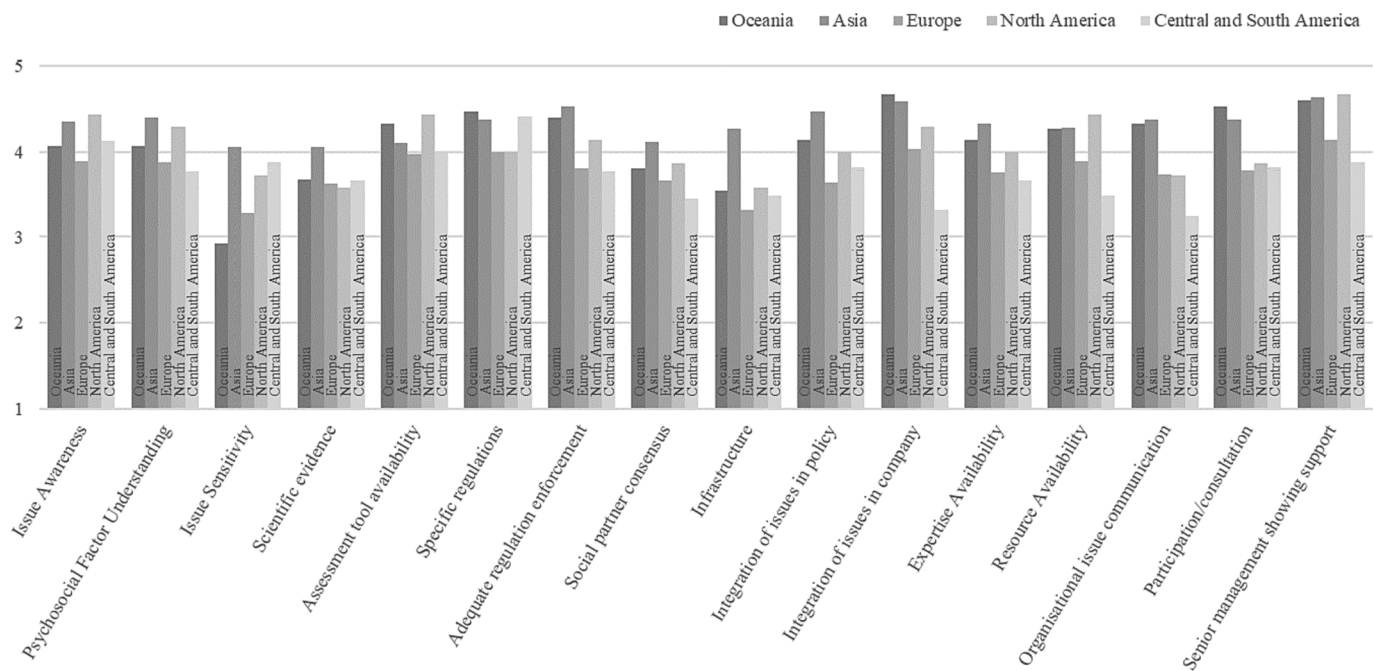


Fig. 7. Regional drivers for managing work-related psychological/mental health.

Table 2  
National Policy Approaches and Enterprise PSC: Descriptives and Correlations.

	N	Min	Max	Mean	SD	1	2	3
1. National Policy Approaches (NPI)	22	0.00	1.00	0.73	0.29			
2. National Law (Jain et al., 2022)	22	0.00	1.00	0.68	0.48	0.47*		
3. National Law (Item 2)	22	0.00	1.00	0.73	0.32	0.88**	0.51*	
4. Enterprise PSC (ESENER)	22	0.20	0.52	0.36	0.10	0.52*	0.54**	0.54**

the remaining six items were correlated with PSC ESENER items as a validation process (from now all analysis are with European countries since ESENER data is European). Item 3 (available guidelines) showed very small to negative relationships and was removed from the items. The remaining 5 policy items (1, 2, 4, 5, 6) showed acceptable reliability, 0.74 and alpha would not increase if any were removed. All items loaded on one factor explaining 49.5% of the variance, with loadings ranging from 0.68 to 0.79. The five items are presented shown above with an asterisk.

Table 2 shows that the correlation between national policy approaches in total (NPI) and enterprise PSC was  $r = 0.52, p = .02$ . This is a large effect. However, the national law measures both showed slightly stronger effects on PSC (0.54). This implies that a specific item related to the law might be sufficient rather than a range of items to predict PSC. The correlation between National Law (Item 2) and National Law from Jain et al. (2022) was  $r = 0.51, p = 0.02$  providing some validation to the expert measure. Table 3 shows the correlations between PSC and National Law from Jain et al. (2022) with each of the NPI items and total

Table 3  
NPI, Enterprise Psychosocial Safety Climate and National Law Correlations.

National Policy Approaches (NPI)		Policy Priority	Law	National Initiatives	Sector Initiatives	National Survey/studies	Total National Policies
Enterprise PSC (ESENER)	r	0.45*	0.54**	0.41	0.37	0.30*	0.52*
	p	0.03	0.01	0.07	0.10	0.19	0.01
National Law (Jain et al., 2022)	r	0.27	0.51*	0.55*	0.34	0.20	0.47*
	p	0.23	0.02	0.01	0.14	0.40	0.03

Note. N varies, 21 or 22 European Countries.

NPI.

Next, Enterprise PSC was regressed onto the two national law measures (this study and Jain et al., 2022). National Law (Jain et al., 2022) added first accounted for 30% of the variance. The NPI Law item added variance to this model (adds 9% of variance,  $F$  change (1,19) = 2.90,  $p =$

Table 4  
Regressing Enterprise Psychosocial Safety Climate on National Law Measures.

Enterprise PSC	Final Model					R <sup>2</sup> change
	B	SE	Beta	t	p	
(Constant)	0.22	0.05		4.83	<0.001	
National Law (Jain et al., 2022)	0.08	0.04	0.36	1.74	0.10	0.30
NPI National Law (Item 2)	0.11	0.07	0.36	1.70	0.11	0.09

Note. R2 change is for Step 1, National Law (Jain et al., 2022), and Step 2 adding NPI National Law (Item 2).

0.11). The final model shown in Table 4 indicates that NPI Law had a roughly equivalent effect to the National Law review (Jain et al., 2022) in accounting for PSC. Note that if NPI Law is entered first it accounts for 29% of the variance, and National Law (Jain et al., 2022) adds 10%. Together the measures accounted for 32% of the variance (Adjusted  $R^2$ ),  $F(2, 19) = 6.02, p < 0.001$ . Overall the results validate the NPI against another national law measure, that explains additional variance in PSC.

Fig. 8 shows visually the correlation between PSC to the NPI in European countries.

Fig. 9 below shows the global index for the national policy approaches relevant to work-related psychological/mental health by country.

Since prior research found trade union density (TUD) was related to PSC we set this against national policies to determine importance. Over and above the main effects of national policy approaches, trade union density made a significant contribution of 29% to Enterprise PSC. Both variables together accounted for 51% of the variance (adjusted) in enterprise PSC (Table 5).

### 3.4. Discussion

The purpose of this research was to investigate the wider ecological system in which workers function, with respect to their national OHS policy framework and psychosocial working conditions. Data were collected from across 45 countries to identify the level of concern, prioritisation, and regulation of a wide range of psychosocial hazards and risks, as well as information regarding factors that either hinder or drive action to promote good mental health. The analysis was taken from both a global and a regional perspective. Another key innovation of this study includes the development and validation of a national policy evaluation tool—the NPI for worker mental health—for systematic surveillance of policy conditions over time.

#### 3.4.1. Outcomes from international policy review

Considering the global policy landscape, not all countries experience the same level of policy protection regarding work-related mental health and psychosocial hazards/risks. There is almost an even split between countries that have laws regarding work-related mental health and those that do not, presenting an opportunity for knowledge transference from countries with advanced policy frameworks to others that lack them.

Knowledge in terms of policy development from countries such as Norway and Sweden could be used to promote good practice in countries with lower policy scores. That said, it is critical to appreciate that there are unique political and social processes that impact developing and implementing policy, a point which is reinforced in our findings relating to the significant influence of union density. Specifically, when looking at the international index for the policy approaches (see Fig. 8), countries with the highest correlation between the NPI and PSC were social democracies (e.g. Norway) with a strong focus on social protection. Therefore, it is likely that pro-social democracies and greater union density is likely to affect labour market policies such as those assessed in the NPI.

The international review found that all assessed psychosocial hazards represent a concern across countries, with experts scoring all psychosocial hazards a three (out of a possible five) and above. Harassment, mobbing or bullying, work overload, discrimination, and poor work-life balance represented the highest scoring global concerns. Globally, harassment, mobbing or bullying, discrimination, and physical violence were the top areas for priority action. Potential reasons for this global trend are that these forms of psychosocial hazards and risks are more tangible and easier to observe than others such as low recognition and isolation. Furthermore, harassment, bullying and discrimination often lead to costly workers compensation claims and as such many workers and employers are highly aware of these workplace risks (Safe Work Australia, 2021). For other psychosocial issues, there were major discrepancies between the level of concern and the policy or regulatory attention most other issues received, such as for work intensity and work life balance. More work is needed to address risk controls for all psychosocial hazards and to understand the reasons for these regulatory discrepancies.

It is interesting to note that in terms of barriers and drivers for psychosocial risks management, senior management support was found to globally function as both a barrier and a driver. This finding accords with PSC theory that top management support for stress prevention and priority for worker psychological health are crucial for the prevention of exposure to workplace psychosocial hazards (Dollard & Bakker, 2010). Including a stronger global focus surrounding worker mental health in national policies could compel more senior management to support psychosocial risk management processes within organisations. This is an evidence-based assertion, since the NPI Law is significantly related to

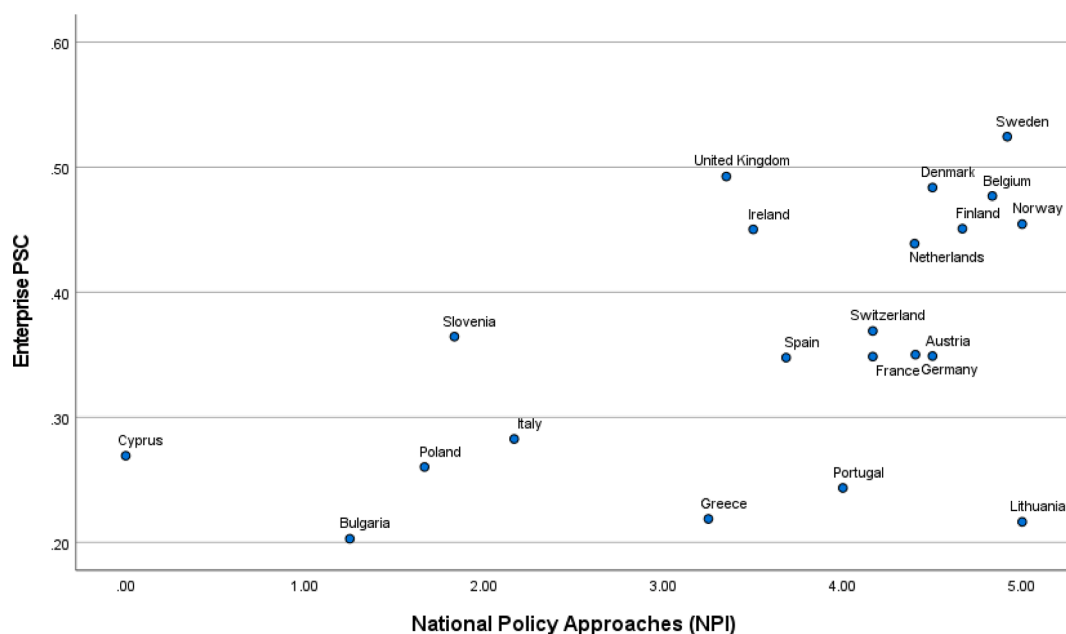


Fig. 8. Correlation between Enterprise PSC and National Policy Approaches for European Countries.

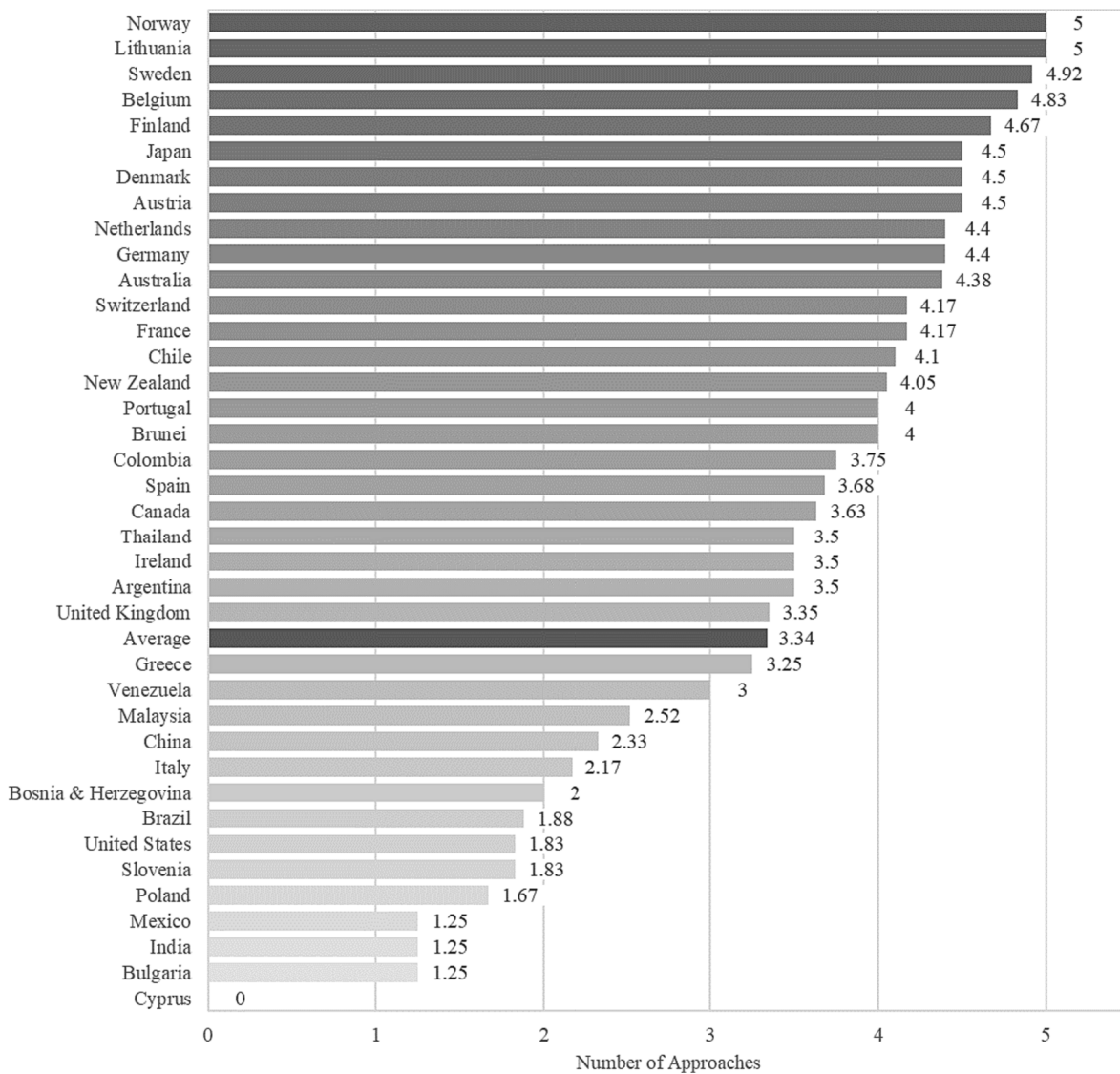


Fig. 9. The NPI by Country.

**Table 5**  
Predicting Enterprise PSC from Trade Union Density and National Policy Approaches.

Enterprise PSC						
Final Model	B	SE	Beta	t	p	R <sup>2</sup> change
(Constant)	0.17	0.05		3.67	0.002	
National Policy Approaches (NPI)	0.15	0.06	0.41	2.57	0.019	0.27
Trade Union Density	0.003	0.001	0.55	3.45	0.003	0.29

Note. R2 change is for Step 1, NPI, and Step 2 adding Trade Union Density.

proxy PSC. Looking at the drivers and barriers for policy implementation regionally, there are differing influences across regions, yet it is apparent that availability of resources was a clear barrier for almost all world regions. Again, having a clearer requirement for psychosocial risk management nationally should provide an incentive for enterprises to direct resources towards managing psychosocial issues.

### 3.4.2. The NPI

This study introduces the first empirically validated tool — the National Policy Index (NPI) for worker mental health—that can be used for

surveillance of a country’s policy context to determine whether it is conducive to positive worker mental health. The current study builds and expands on findings from two other robust studies that examined the impact of national level legislation and enterprise PSC on working conditions and employee mental health (Dollard & Nesar, 2013; Jain et al., 2022). However this is the first study to establish a clear relationship between a suite of national policy approaches and the mental health protection at the enterprise level. Shown in this study and others (European Agency for Safety and Health at Work, 2012, 2017; Potter et al., 2017), having national legislation is the most critical impetus for workplace action. It is also likely that through legislating the protection of work-related mental health, this could help overcome the main barriers to policy action (i.e., lack of resources), as it could encourage resources to be directed towards this issue or penalise non-action rather than prioritising resourcing purely for productivity reasons.

While it would be beneficial for all countries to have legislation in place, there also needs to be other complementing systems to ensure legislation is properly implemented and regulated. For instance, the study found that over and above national policy approaches trade union density was also important underscoring that collective social action that emphasises the protection and promotion of worker mental health is also effective in improving enterprise level PSC. This suggest that it is not enough to establish laws in isolation, but rather, that having support

via collective action (e.g. unionism) and the broader context is vital (as supported by [Dollard and Nesar \(2013\)](#)). These findings give insights into how legislation infiltrates the workplace, through signifying that change must also be led by those who strive to protect worker conditions.

### 3.4.3. Practical implications

The NPI shows specific areas that countries need to target to ensure national OHS policy has a positive impact. For impact at the enterprise-level in the context of work-related mental health, analysis shows countries need to:

- Assert mental health as a policy priority
- Have specific laws to regulate psychosocial hazards/risks and mental health
- Implement nation-wide initiatives for mental health
- Implement sector-oriented initiatives for mental health
- Conduct national surveys or studies that assess psychosocial hazards/risks to mental health

Given evidence of the relationship between policy and its positive effect on enterprise-level PSC, there is merit in reinforcing national level policy approaches to support the psychosocial hazard/risk management and thereby the protection and promotion of mental health at work to address the global mental health crisis. Findings provide quantitative evidence to support global qualitative studies that argue for more explicit policy action. Our research provides important evidence for stakeholders in current discussion about a new EU Directive addressing psychosocial risk management (PSR) because it clearly shows that regulations are critical for good mental health action, policies and procedures at the enterprise level. For ongoing policy evaluation, the NPI will be invaluable in evaluating the impact of policies both across countries and globally—and will help draw comparative conclusions for priorities to be addressed in the future.

## 4. Limitations

A limitation of this study is that not all countries chose to participate despite invitation. It was difficult to access contacts in some regions and there is only an English and Spanish version of the questionnaire thus far. It would be beneficial to translate the NPI tool into other languages to encourage a more diverse range of responses. Another limitation is that there is a lack of union- and employer-focused perspectives within our sample of participants. A reason for this is that while international unions are concerned about psychosocial hazard/risk management, it is not currently a main priority for some national unions, such as in France where health at work is far from being one of the main collective bargaining subjects. Future studies should engage with these two stakeholder groups and collect to ensure a more comprehensive tripartite perspective.

Another limitation is that this study relied on expert perception which may lead to inaccuracies in reporting. By using the index on a regular basis we hope that reporters will become more alert to national policy changes which will increase reliability of responses. It is also acknowledged that it is likely that the different participating countries have different perceptions of the psychosocial hazards and risks that were assessed in this research. While it was out of scope of this study to explore these differences, it would be helpful for greater qualitative investigation into how cultural and societal factors shape people's understanding and responses to the questions. Other directions for future research include further qualitative investigation better understand the discrepancies between the concerns of certain psychosocial issues and the level of regulation. Perhaps since the world of work has changed since the COVID-19 pandemic there are now new forms of psychosocial risks emerging ([Chirico et al., 2021](#); [Magnavita & Chirico, 2020](#)) and

subsequent lag in policy action to address them. Future research may also strengthen the validation of the NPI tool by linking it to other national data sets such as the European Working Conditions Survey and the Corruption Perception Index.

## 5. Conclusion

Academics and practitioners must continue to explore national policy outside of the enterprise to adequately tackle the multi-source origins of poor mental health. This study's findings showed that most prevalent global psychosocial concerns are harassment, mobbing or bullying, work overload, discrimination, and poor work-life balance. In terms of policy priorities, the focus lies on addressing issues such as harassment, mobbing or bullying, discrimination, and physical violence. In addition, the findings indicate that the psychosocial hazards/risks most effectively addressed in policies or regulated are physical violence, discrimination, harassment, mobbing or bullying. The key drivers for effectively managing these hazards include strong workplace senior management support (as echoed in PSC principles) and the presence of specific national regulations. On the other hand, poor availability of resources serves as a significant barrier to effectively address these hazards. Our study showed that the NPI tool has excellent construct validity evidenced by a strong correlation with a measure of national law ascertained through an archival policy review approach ([Jain et al., 2022](#)) and strong criterion validity by explaining intercountry differences between enterprise PSC. Overall our study's findings indicate that attention should be given across all countries to national policies to improve worker mental health, and accords with an observation from [Dollard and Nesar \(2013\)](#) on "the importance of national ideology, policy and power to promote workplace psychosocial safety climate" for worker mental health.

### CRedit authorship contribution statement

**Rachael E. Potter:** Project administration, Conceptualization, Data curation, Investigation, Methodology, Visualization, Writing – original draft, Writing – review & editing. **Maureen Dollard:** Supervision, Writing – review & editing, Formal analysis, Funding acquisition, Resources, Conceptualization. **Loic Lerouge:** Data curation, Writing – review & editing. **Aditya Jain:** Methodology, Writing – review & editing, Data curation. **Stavroula Leka:** Writing – review & editing, Data curation, Methodology. **Aude Cefaliello:** Writing – review & editing, Data curation.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

The data that has been used is confidential.

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## Appendix A

List of countries that participated and the frequency and percentage of the respondents.

	n	%
Argentina	3	1.8
Australia	9	5.5
Austria	2	1.2
Barbados	1	0.6
Belgium	6	3.7
Bosnia & Herzegovina	1	0.6
Brazil	4	2.4
Brunei Darussalam	1	0.6
Bulgaria	2	1.2
Canada	4	2.4
Chile	5	3.0
China	4	2.4
Colombia	4	2.4
Cyprus	1	0.6
Denmark	2	1.2
Egypt	1	0.6
Finland	3	1.8
France	7	4.3
Germany	7	4.3
Greece	2	1.2
India	2	1.2
Indonesia	2	1.2
Ireland	8	4.9
Italy	3	1.8
Japan	2	1.2
Lithuania	2	1.2
Luxembourg	1	0.6
Malaysia	15	9.1
Mexico	4	2.4
Netherlands	5	3.0
New Zealand	7	4.3
Norway	1	0.6
Peru	1	0.6
Poland	3	1.8
Portugal	4	2.4
Russia	1	0.6
Slovenia	4	2.4
South Africa	1	0.6
Spain	6	3.7
Sweden	6	3.7
Switzerland	3	1.8
Thailand	1	0.6
United Kingdom	8	4.9
United States	3	1.8
Venezuela	2	1.2

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