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Impacto de la intervención sindical en materia de riesgos laborales de origen psicosocial. Un estudio comparado en Europa occidental.

Impact of the union intervention in the matter of labor risks of psychosocial origin. A comparative study in Western Europe.

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Resumen:

Es conocido que la intervención sindical tiene un efecto positivo sobre la reducción de los accidentes de trabajo. Sin embargo, no existe evidencia comparable sobre su efecto en las patologías psicosomáticas. La presente investigación estudia el impacto de la representación de los trabajadores en materia de riesgos psicosociales, tanto en términos agregados para el conjunto de la UE como de forma comparada entre los distintos sistemas de relaciones laborales. A tal efecto, se analizan los microdatos de una encuesta a 31.991 centros de trabajo europeos (ESENER-2), mediante diversos modelos de regresión que permitieron identificar cómo la presencia de representantes garantiza estándares más elevados de gestión y la correspondiente activación cultural, mientras que los de absentismo laboral solo se reducen con la participación directa y activa de los trabajadores. Por su parte, el análisis de correspondencias múltiples permite constatar cómo los sistemas institucionalizados del área centroeuropea y mediterránea presentan más dificultades para involucrar a los trabajadores que los escandinavos o anglosajones caracterizados por mayores niveles de autorregulación.

Palabras clave: Recursos de poder sindical, estudio comparado, riesgos psicosociales, cultura participativa, espejismo institucional.

Abstract:

It is known that union intervention has a positive effect on the reduction of occupational accidents. However, there is no comparable evidence on its effect on psychosomatic pathologies. This research studies the impact of workers' representation on psychosocial risks, both in aggregate terms for the whole of the EU and in a comparative manner between the different systems of labor relations. To this end, the microdata of a survey of 31,991 European work centers (ESENER-2) are analyzed by means of various regression models that allowed the identification of how the presence of representatives guarantees higher standards of management and the corresponding cultural activation, while those of absenteeism from work are only reduced with the direct and active participation of the

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workers. On the other hand, the analysis of multiple correspondences allows us to see how the institutionalized systems of the Central European and Mediterranean area present more difficulties in involving workers than the Scandinavian or Anglo-Saxon systems, which are characterized by higher levels of self-regulation.

Keywords: Union power resources, comparative study, psychosocial risks, participatory culture, institutional mirage.

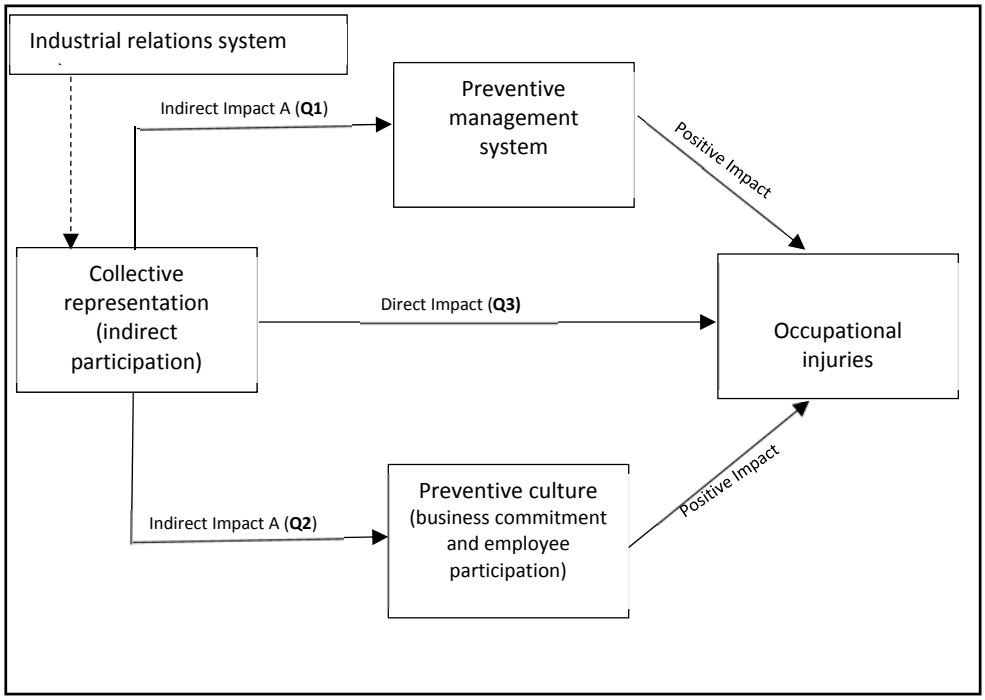
1. Introduction: Effects of union intervention on occupational health

Throughout history, the union movement has played a relevant role in improving working conditions and fighting against pathologies (physical or psychological) that threatened the health of workers, as demonstrated by the strikes against *ceruse* or white phosphorus (Rainhorn, 2010; Voguel, 2016). To date, we have strong empirical evidence on the positive impact of union intervention on occupational safety and health (Johnstone, et al., 2005; Walters and Nichols, 2006; Walters and Nichols, 2007). Following the analytical typology of Walters, et al. (2005), econometric studies that analyze the effects of indirect worker participation, through their representatives, on occupational health harms can be divided between those that measure its direct impact, on the one hand, and those that analyze its indirect impact, on the other. In this sense, various investigations have found a statistically significant relationship between the presence of general (unitary or union) and specialized occupational health representation bodies (prevention delegates or safety and health committees) in workplaces, with the reduction of occupational accidents (Nichols, et al., 2007; Reilly, et al., 1995; Robinson and Smallman, 2013) and occupational diseases (Robinson and Smallman, 2006). In reference to the indirect impact of union action on occupational health, it is also known how in workplaces where general and specialized representation operates, preventive management standards are increased (indirect impact A) (Coutrot, 2009; Ollé, et al. 2015; Weil 1992) and a participatory culture is activated to the extent that the company's commitment to preventive management and the promotion of direct participation by workers are increasing (indirect impact B) (Biggins et al. 1991; Shaw and Turner, 2003; Warren-Langford et al. 1993). This is a double indirect impact because the companies that best integrate the three phases of the preventive management cycle (elaboration of prevention plans, risk evaluation, design and planning of action measures) and involve the workers in the design and implementation of this management system (direct active participation), present fewer work accidents than companies with lower management standards and an authoritarian management that simply informs the workers (direct passive participation) of the risks (Autenrieth, et al. 2016; Robinson and Smallman, 2013), as discussed in the analytical framework (Figure 1) of this research.

Despite the positive effect of associative power on standards of labor welfare, the truth is that there are also studies that have found how unionized workplaces have the highest rates of accidents (Fenn and Ashby, 2004; Hillage, et al., 2000; Litwin, 2000), which has shifted the focus of research to the study of the determinants that drive or weaken the degree of real participation of workers' representatives (Menendez, et al. 2009; Walters and Wadsworth, 2014, 2020). Such studies have identified at the organizational level as the degree of leadership and business commitment, the depth (passive or active) of direct worker participation, the size of the company, the sector or the production power (genuine capacities) of the workers in the company, the levels of

unionization of general and specialized representation, the economic situation of the company or the system of integration of prevention (own or external means), influence the levels of participation and effectiveness of collective representation. To these, it is necessary to add macro-contextual determinants related to the labor relations systems, to the extent that the existing legislation (which promotes participation in the company), the institutional power of the unions in the collective bargaining or social agreement and the strength of the labor inspection, affect, likewise, the levels of effectiveness of the associative power in the workplaces.

Figure 1: Impact of representation systems on occupational safety and health systems



This is a consolidated line of research, but nevertheless, there are still some questions or issues to be resolved. Firstly, the analyses carried out have focused on the union impact on the management of traditional industrial safety and hygiene risks linked to work accidents and occupational diseases, but they do not investigate new and emerging risks of psychosocial origin. However, at present, the combined effect of the policies of management of the economic crisis by the bodies of European governance oriented towards the flexibilization of the markets (Crouch, 2014) together with other processes of transformation of the productive processes such as the digitalization of the economy (EU-OSHA, 2018) or the recent pandemic outbreak of Covid-19 (Sherman, et al. 2020), have led to an increase in job and economic insecurity, and with it, exposure to psychosocial risk factors (work without limits, dislocation of working time, etc.) causing the emergence of psychosomatic pathologies such as anguish, anxiety (techno anxiety), stress (techno stress, techno phobia, techno addiction) or depression. In fact, it is estimated that the main cause of work absenteeism in the European Union are mental pathologies (Leka and Jain, 2017). It is likely that union action will also have a positive effect on psychosocial risks, but there is no empirical evidence comparable to that observed on industrial risks (Walters, 2011). The most recent studies are oriented towards

the benefits of direct worker participation on the psychosocial environment through human resource policies focused on the economic root of participation (Findlay, et al. 2013; Knudsen, et al., 2011; Llorens, et al., 2019), but nevertheless, they forget about its political root and the problems derived from the asymmetry of power in labor relations. Therefore, this research attempts to provide empirical evidence about the impact (direct and indirect) of workers' representatives on the management of psychosocial risks, with the aim of answering the following research questions:

- Q1: What is the relationship between the presence of collective representation systems in European workplaces and the levels of psychosocial risk management? (indirect impact A).
- Q2: Are workers' representatives able to change the behavior of managers in management systems and involve workers in the design and implementation of measures to eliminate psychosocial risks? (indirect impact B).
- Q3: What impact does the presence of representation systems have on the levels of absenteeism in the workplace? Is their presence sufficient or is it necessary to activate a preventive culture? (Direct impact).

Historically, two different approaches have operated in the analysis and management of occupational safety and health problems. The first has its origin in the American Safety First movement which proposed the necessary activation of a preventive culture within the company as an essential element to reduce occupational accidents. The second derives from the so-called "calendar of death" of the Pittsburgh survey (Swuste, et al., 2010) which defends as a key factor for reducing accidents, state intervention in the regulation of environmental conditions (production speed, protection of facilities and machines, etc.). These approaches are associated with different forms of regulation of occupational safety and health. On the one hand, the Anglo-Saxon systems, especially in the United Kingdom through the influential Robens Report, took up the legacy of the Safety First movement and opted for the self-regulation of preventive management systems with general national standards that encouraged the activation of a preventive culture within the company, and on the other hand, those coming from the central European area that started from the principle of worker protection by the public authority (Camas, 2005: 36). Both perspectives are integrated in the current Directive 89/391/EEC (hereinafter the Framework Directive), which combines the regulation of a general business security debt and participatory rights with the development of supra-business regulatory standards (Narocki, al., 2011). Despite the homogenization effected by the Framework Directive, there are still regulatory differences between the countries of the European Union due to the historical configuration of their labor relations models.

While it is true that the economic crisis of the last decade has led to a growing internal diversification among the countries that make up the same system of labor relations, from a *longue durée* perspective, each model still maintains essential historical elements that allow for telescopic analysis of their common characteristics (Gumbrell-McCormick and Hyman, 2013: 6; Lehndorff, et al. 2018 :15). Thus, while the Anglo-Saxon and Scandinavian systems maintain the voluntary and self-regulated character of their labor relations (albeit with different state models and governance systems) with a strong union presence in the workplaces and participation systems, in general terms, from the bottom up; Central European and Mediterranean countries present a high level of state intervention in labor regulation and their union power is articulated with the institutionalization of labor relations through their organizational leaderships, with a

greater top-down orientation in participatory processes (Beneyto, 2018; Rigby and García-Calavia, 2018). This differentiation is important, since most of the previous studies we have cited come from Anglo-Saxon countries, especially the United Kingdom (see, among others, Fenn and Ashby, 2004; Hillage, et al., 2000; Litwin, 2000 Nichols, et al., 2007; Reilly, et al., 1995; Robinson and Smallman, 2013) and there is no comparable scientific evidence in other models of labor relations, so we pose the following research question:

- Q4: Which strategy will be more efficient for the management of psychosocial risks, that of the systems that promote self-regulation of the management of the preventive system, or that of those who base their intervention on institutional power?

2. Research methodology

2.1. Sample population

In order to answer our research questions, we have developed a transversal study based on the microdata from the Second European Survey of Enterprises on New and Emerging Risks (ESENER-2), prepared by the European Agency for Safety and Health at Work (EU-OSHA, 2017). ESENER-2 records the management systems for the prevention of psychosocial risks in 49,320 work centers with five or more employees from all sectors of economic activity except private households (NACE T) and extraterritorial organisations [(NACE U) from 36 countries (28 European member states, as well as six candidate countries and two countries of the European Free Trade Association (EFTA)]. In order to carry out the statistical analyses, 19 countries have been selected corresponding to the different models of labor relations in Western Europe, so that the final sample used to develop this research was 31,991 work centers. Specifically, four countries were selected from the Anglo-Saxon area (United Kingdom, Ireland, Malta and Cyprus), five from the continental model of labor relations (Germany, Austria, Belgium, Netherlands and Luxembourg), another four from the Scandinavian system (Sweden, Denmark, Finland and Norway) and five from the Mediterranean area (Spain, France, Portugal, Italy and Greece).

2.2. Dependent Variables

In order to measure the impact of the representation systems on the levels of management of psychosocial risks (1st research question - indirect impact A), different operations have been carried out for the construction of an indicator. First, nine questions have been selected from ESENER-2 corresponding to each phase of the prevention management process (see table 1), each with two possible response alternatives (0=No / 1=Yes). Secondly, the nine questions were added up, resulting in a measurement scale ranging from 0 (no indicator managed) to 9 (all indicators managed). Through the calculation of Cronbach's Alpha coefficient (α= .789) the adequacy of the measurement scale was confirmed (George and MAllery, 2003) and its validity for confirmatory studies (Huth et al., 2006). Finally, the indicator was recoded into three levels of preventive management: 1= from 0 to 3 managed indicators defined as low level; 2= from 4 to 7 (medium level); and 3= from 8 to 9 (high level).

In relation to the indicators of preventive culture corresponding to the second research question (indirect impact B), the following are proposed: a) leadership or commitment of the management, measured on the basis of question Q162 regarding the degree of business involvement in the management system (1=usually / 2=occasionally / 3=almost never); b) passive participation of the workers, measured through question Q256_5 referring to whether the workers had been informed of the results of the risk assessment (1=Yes / 2=No) and, finally, active participation, measured through question Q305, which asked about the degree of involvement of the workers in the design and implementation of prevention measures (1=Yes / 2=No).

The third of the research questions (direct impact) was measured through question Q450, which divided into five the levels of absenteeism (very high / quite high / within the average / quite low / very low). Due to the few cases with very high (416 cases) or high (1453) levels of absenteeism, the indicator was recoded into three response alternatives (1= Quite low or low / 2= Within the mean / 3= Very high or high). It is worth mentioning that, in the present investigation, it was decided to use as an indicator for the evaluation of labor health the level of absenteeism to the detriment of the official records of labor accidents and professional illnesses, due to psychosomatic pathologies (anxiety, depression, stress, sleep problems, etc.).) produced by exposure to psychosocial risks, from a legal point of view, are systematically excluded from the official registers in most countries of the European Union, in application of Commission Recommendation 2003/670/EC of September 19, 2003, concerning the European list of occupational diseases (which does not contemplate psychosomatic pathologies as a disease) so that "in very few countries are stress-related diseases included in the official lists of occupational diseases" (Leka et al. 2015: 4).

2.3. Independent Variables

The presence of worker representation, both general (unitary and union) and specialized in occupational safety and health (prevention delegates and occupational safety and health committees), in the workplaces was measured through question Q166. It is worth mentioning that both forms of representation have different relationships with each other, depending on the country, from parallel to overlapping and/or complementary channels, with an aggregate coverage of around 58% of the total number of workers (see Fulton, 2018). It is worth mentioning that, due to the fact that this is a comparative statistical study, the systems of interest representation must be simplified in order to be able to analyse complex realities, but it is nevertheless interesting to delve into certain differentiating aspects. On the one hand, in countries with self-regulated voluntary industrial relations systems (Anglo-Saxon and Scandinavian), there are no electoral hearing mechanisms developed by legislation, which means that the main associative resource for workers is trade union membership and shop stewards. On the other hand, the countries of the Mediterranean and continental area have institutionalised industrial relations systems where state intervention is high, regulating electoral hearing mechanisms, which results in a dual channel configuration of interest representation (trade union and unitary). However, there is a wide range of casuistry in the institutional configuration. While in countries such as Spain and Portugal, unitary representation prevails over union representation, in France and Italy a dual channel of interest representation is configured, with union representation prevailing (see Beneyto, 2018; Payá and Beneyto, 2019). In addition, there are models in which the right to freedom of association is mandatory and in a positive sense, and in other models there is the duality of freedom of association as a fundamental right, but in both positive and negative senses,

i.e. free choice, affiliation or non-affiliation if the worker considers it appropriate. This is crucial as it will influence the role of workers' representative organisations and the degree of trust placed in them. These actors are part of the integrative model of the preventive culture that each and every company requires. The mechanisms for action in the prevention of occupational risks, especially those associated with psychosocial factors, share both collective and individual intervention actions.

2.4. Covariates for the Adjustment of Statistical Models

As we saw in the introductory section, there are a number of determining factors that can affect the effectiveness of indirect worker participation, both on the levels of preventive management and the activation of the culture of participation and the levels of absenteeism. Therefore, in order to avoid spurious relationships in the statistical models carried out, we use as control variables both internal determinants of the organization itself and factors related to the economic and social macro context of a supra-business nature. Among the internal factors, three indicators have been selected: a) the size of the work center; b) the sector of activity and c) the economic situation of the company (Q451). While to capture the effect of the macro context, two indicators are used: a) the country to which each work center belongs as a generic indicator of the tradition of labor relations and b) the strength of the labor inspection (Q165) as an institution with specific functions of monitoring and control of compliance with preventive regulations. Table 1 summarizes all the variables used in this study.

Table 1. Variables and dimensions used in the study

Dimensions	ESENER-2 questions	Indicators
Management of psychosocial prevention	*Plans, programmes and procedures* • Q300.- Does your workplace have an action plan to prevent work-related stress? • Q301.- Do you have a procedure for dealing with possible cases of harassment or bullying? • Q302.- Do you have a procedure for dealing with possible cases of threats, insults or aggression from clients, patients, students or other outsiders? *Risk Assessment* Q252: Which of the following aspects are usually included in these workplace risk assessments on a regular basis? • Q252_5)- Relations between the worker and his supervisor. • Q252_6)-Organizational aspects such as working hours, breaks or shifts. *Planning of preventive action measures* In the last 3 years, has your workplace implemented any of the following measures to prevent psychosocial risks? • Q301_1) Reorganization of work in order to reduce work demands and pressure. • Q301_2) Confidential advice for workers. • Q303_3) Implementation of a dispute resolution procedure. • Q303_4) Intervention in case of excessive working hours or irregular Schedule	Management levels: 1. Low. 2. Medium. 3. High
Preventive culture	*Business commitment* • Q162.- In your workplace, how often do senior management deal with issues related to the prevention of occupational hazards? *Direct passive participation* Who has received the results of the workplace risk assessment? • Q. 256_5) The workers themselves. *Direct active participation* • Q305- Did workers participate in the design and adoption of measures to prevent psychosocial risks?	Business commitment: 1. Regular. 2. Occasional. 3. Never Passive participation: 1. Yes 2. No Active participation. 1. Yes 2. No
Absenteeism	• Q450 How would you describe the level of absenteeism in your workplace compared to other workplaces in the sector?	Level of absenteeism: 1. Quite low or very low 2. Within the average 3. High or very high
System of representation	Q166. Which of the following forms of worker representation are available in your workplace? • Q166_1) Staff delegate, works council to staff meeting • Q166_2) Shop steward • Q166_3) Prevention delegate • Q166_4) Committee on Safety and Health at Work	Unitary Representation 1. Yes 2. No Trade Union Representation 1. Yes 2. No Prevention delegate 1. Yes 2. No Committee on Safety and Health at Work 1. Yes 2 .No
Adjustment variables	*Micro Contextual* • Size of the work centre • Sector of activity • Q451. How would you describe your workplace's current economic situation - is it very good, fairly good, neither good nor bad, fairly bad or very bad? *Contextual macro* • Country • Q165.- Has your workplace received any visits from the Labour Inspectorate in the last 3 years to check compliance with regulations on the prevention of occupational hazards?	

2.5. Statistical analysis

To measure at an aggregate level the relationships between the presence of the different forms of interest representation in the workplaces with the levels of preventive management (Q1-Indirect Impact A), the activation of a participatory culture (Q2-indirect impact B) and the levels of absenteeism (Q-3- direct impact), both binary logistic regressions (for the dummy dependent variables referring to passive and active participation) and multinomial regressions (when the dependent variable had three categories) were carried out, establishing as a reference category the lowest levels for each of the five dependent variables (low level of preventive management; management is almost never involved in management; the absence of passive participation; the absence of active participation; and, very low or quite low level of absenteeism), calculating the adjusted odds ratios (aOR) for the sociodemographic covariates described in section 2. 4., with their corresponding 95% confidence intervals (CI95%). However, in order to measure the direct impact (Q3) in the regression model, the indicators of preventive management and culture were also included to know whether the mere presence of representatives in the workplaces is sufficient or, on the contrary, the active participation of the workers in the management of psychosocial risks is necessary.

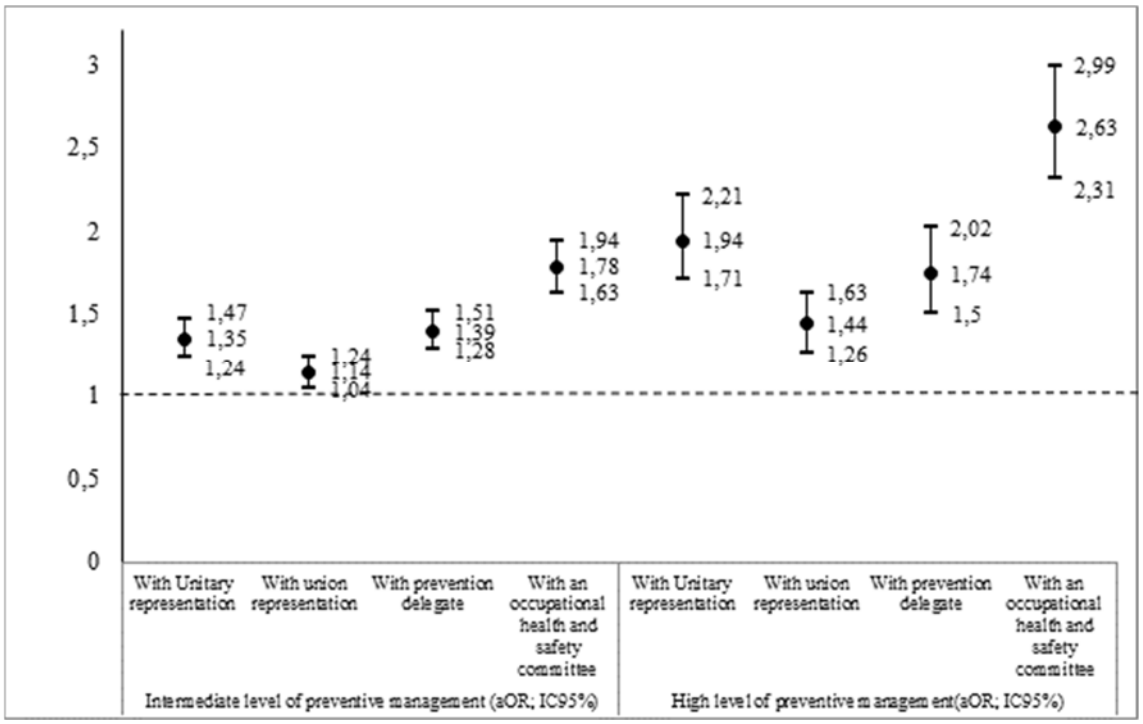
Finally, the fourth research question (Q4) is studied in a disaggregated way, related to the role of the different models of labor relations on the management systems for the prevention of psychosocial risks. To this end, a Multiple Correspondence Analysis (MCA) was carried out, which made it possible to classify the countries on a positioning map according to the levels of preventive management, participatory culture and levels of absenteeism. As a complement to the MCA, a classification analysis was carried out using the Ward's hierarchical bottom-up method, in order to group the countries into a number of groups or segments more precisely than the MCA. Through the classification analysis, greater precision was obtained in the formation of clusters of countries with homogeneous systems. Finally, it should be noted that all statistical calculations were done through the SPSS version 26 statistical software.

3. Results

3.1. Indirect impact

The results obtained (Figure 2) show the existence of a positive relationship between the levels of preventive management and the presence of workers' representatives in the workplaces (indirect impact A), which, in turn, is increased at the highest levels of psychosocial risk management. Specifically, work centers with the presence of unitary representatives are 1.94 more likely to have the most developed management systems compared to centers without representation (aOR=1.94; 95%CI:1.71-2.21), while the impact of the presence of union delegates has been found to be slightly lower (aOR=1.44; 95%CI:1.26-1.63). However, the highest differences have been found in the specialized representation systems for preventive matters, insofar as those workplaces that have joint occupational safety and health committees are 2.63 more likely to be at the highest levels of psychosocial risk management (aOR=2.63; 95%CI:2.31-2.99).

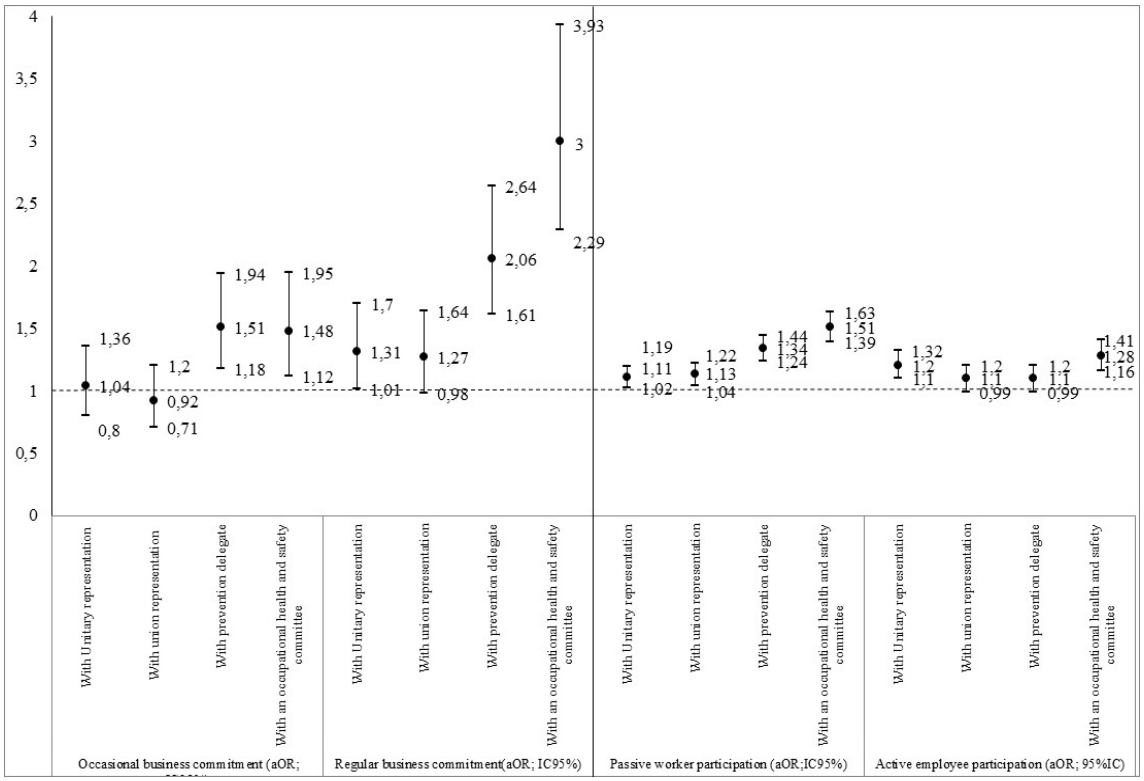
Figure 2: Multinomial regressions between the presence of representation systems and preventive management levels



Note: The reference category for the dependent variable was low level of management and for the independent variables was no representation. Adjusted odds ratios (aOR) were calculated for all covariates described in Section 2.24

In reference to the activation of a preventive culture in the workplace (indirect impact B), the results found (Figure 3) show how the presence of representation systems is also related to a greater commitment by management in the management of psychosocial risks and to the active participation of workers in the design of preventive action measures. It has been found that in workplaces with the presence of personnel delegates or works councils, there is a 1.31 greater probability that managers will become routinely involved in occupational safety and health issues (aOR=1.31; 95%CI: 1.01-1.70). However, this relationship has had a low level of significance and the presence of union delegates is not predictive. However, the figures specialized in occupational safety and health have a high indirect impact to the extent that the presence of prevention delegates doubles the probability of activating the company's commitment (aOR=2.06; 95%CI:1.61-2.64), and even triples it in the case of joint occupational safety and health committees (aOR=3.00; 95%CI:2.29-3.93).

Figure 3: Regressions between the presence of representation systems and the levels of business commitment and worker participation



Note: The reference categories for the dependent variable were the low level of corporate commitment and the absence of passive and active involvement. The independent variables were the absence of representation. Adjusted odds ratios (aOR) were calculated for all covariates described in Section 2.24

In addition, the results obtained have shown how specialized representation in occupational safety and health has a positive and significant impact on the levels of direct participation of workers, both in its passive version and in its more active facet. Specifically, it has been shown that in those workplaces with the presence of prevention delegates, there is a 1.34 greater chance that the workers will be informed about the risks and the measures to be adopted to reduce exposure to psychosocial risks (aOR=1.34; 95%CI:1.24-1.44). Also on this point, the strongest associations have been found in the presence of occupational safety and health committees, to the extent that they not only guarantee a higher level of passive participation by workers (aOR=1.51; 95%CI:1.39-1.63), but also are able to involve them in the design and implementation of preventive action measures to reduce or eliminate such risks (aOR=1.28; 95%CI:1.16-1.41).

3.2. Direct impact

With reference to the results obtained on the direct impact of the different representation systems (table 2), it has been found, on the one hand, that the presence of unitary and specialized occupational health representatives in the workplaces is not predictive of the levels of absenteeism, but, on the other hand, the presence of union delegates is related to a 1. 99 more likely to be at the highest levels of absenteeism (aOR=1.99; 95%CI:1.56-2.53) in a very significant way (p-value=0.000), which shows, a priori, a negative impact of union action. In spite of this, the presence of representation in the work centers has a positive impact in an indirect manner due to two issues. Firstly,

the highest levels of preventive management place the companies in the intermediate levels of absenteeism (aOR=1.32;95%CI:1.03-1.64) but they have not become predictive in the highest levels of absenteeism. Secondly, it has been observed how the only indicator that guarantees not to be at the highest levels of absenteeism is the active participation of workers in the design and implementation of action measures to prevent psychosocial risks (aOR=0.74;95%CI%:0.59-0.93).

Table 2. Multinomial logistic regression on absenteeism levels

	Intermediate level of absenteeism[A]		Very high or high level of absenteeism[A]	
	aOR (95%CI)[B]	**P-Valor**	**aOR(CI)[B]**	**P-Valor**
Presence of unitary representation systems				
Unitary Representation				
Without personnel delegate	1[C]		1[C]	
With personnel delegate	1.01 (0.88-1.16)	0.910	1.06 (0.93-1.36)	0.633
Trade Union Representation				
No union representative	1[C]		1[C]	
Without a trade union delegate	1.46 (1.28-1.67)	0.000	1.99 (1.56-2.53)	0.000
Specialized representation				
Without prevention delegate	1[C]		1[C]	
With prevention delegate	1.03 (0.88-1.20)	0.742	0.83 (0.64-1.07)	0.149
Occupational Safety and Health Committee				
Without committee	1[C]		1[C]	
With committee	1.01 (0.88-1.16)	0.890	1.20 (0.64-1.07)	0.149
Preventive management				
Management of psychosocial risks				
Low Level	1[C]		1[C]	
Medium Level	1.31 (1.04-1.65)	0.024	1.10 (0.84-1.45)	0.479
High Level	1.32 (1.03-1.64)	0.029	1.16 (0.85-1.59)	0.365
Preventive culture				
Management's commitment				
Rarely committed	1[C]		1[C]	
Occasionally it commits	1.14 (0.72-1.54)	0.499	0.92 (0.48-1.76)	0.800
It usually commits	1.05 (0.78-1.68)	0.801	1.12 (0.60-2.11)	0.722
Passive worker participation				
Without participation	1[C]		1[C]	
With participation	0.84 (0.75-0.94)	0.003	0.83 (0.67-1.02)	0.070
Active employee participation				
Without participation	1[C]		1[C]	
With participation	0.82 (0.71-0.94)	0.004	0.74 (0.59-0.93)	0.010

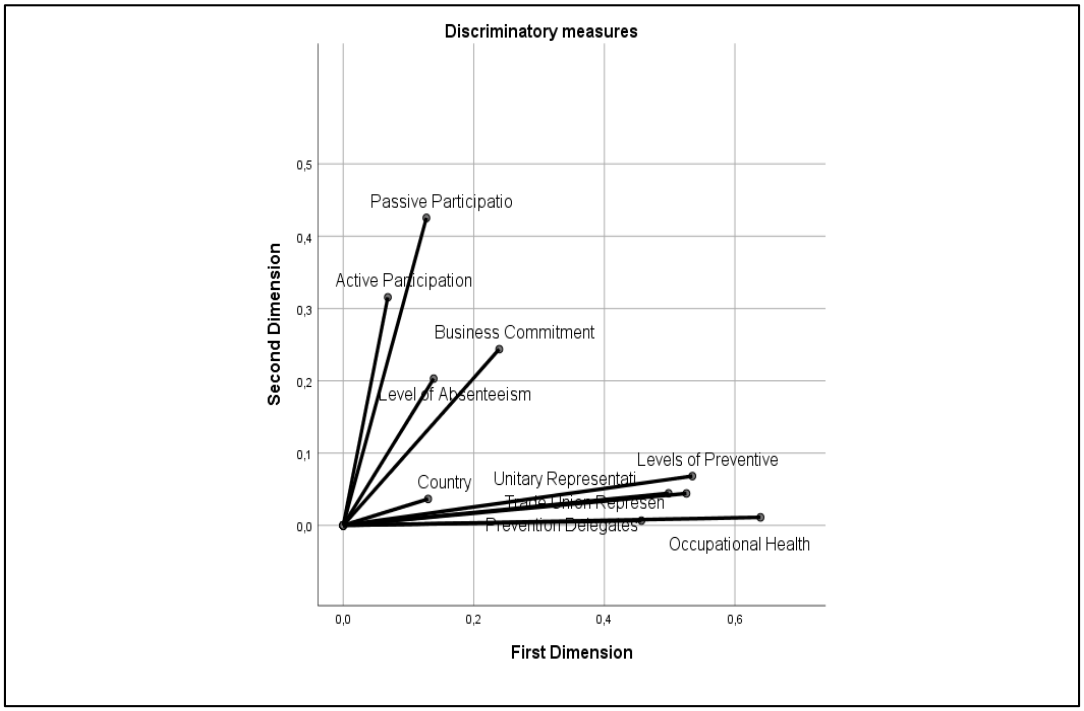
Note: [A] The reference category was the low or very low level of absenteeism. [B] Adjusted odds ratios (aOR) for all the independent variables shown in the table itself and the covariates described in section 2.24., and their corresponding confidence intervals (95%CI). [c] Reference category of the independent variables.

3.3. Comparative study of industrial relations systems

In order to answer the fourth research question (Q4), aimed at finding out the effectiveness of the different models of labor relations in the prevention of psychosocial risks, we conducted a MCA that has allowed us to reduce the information of the 21 categories of the 9 active variables (see indicators table 1) in two main dimensions that explain 51% of the inertia (variance). Thus, the selected active variables have a high predictive capacity of the models of labor relations in occupational safety and health to

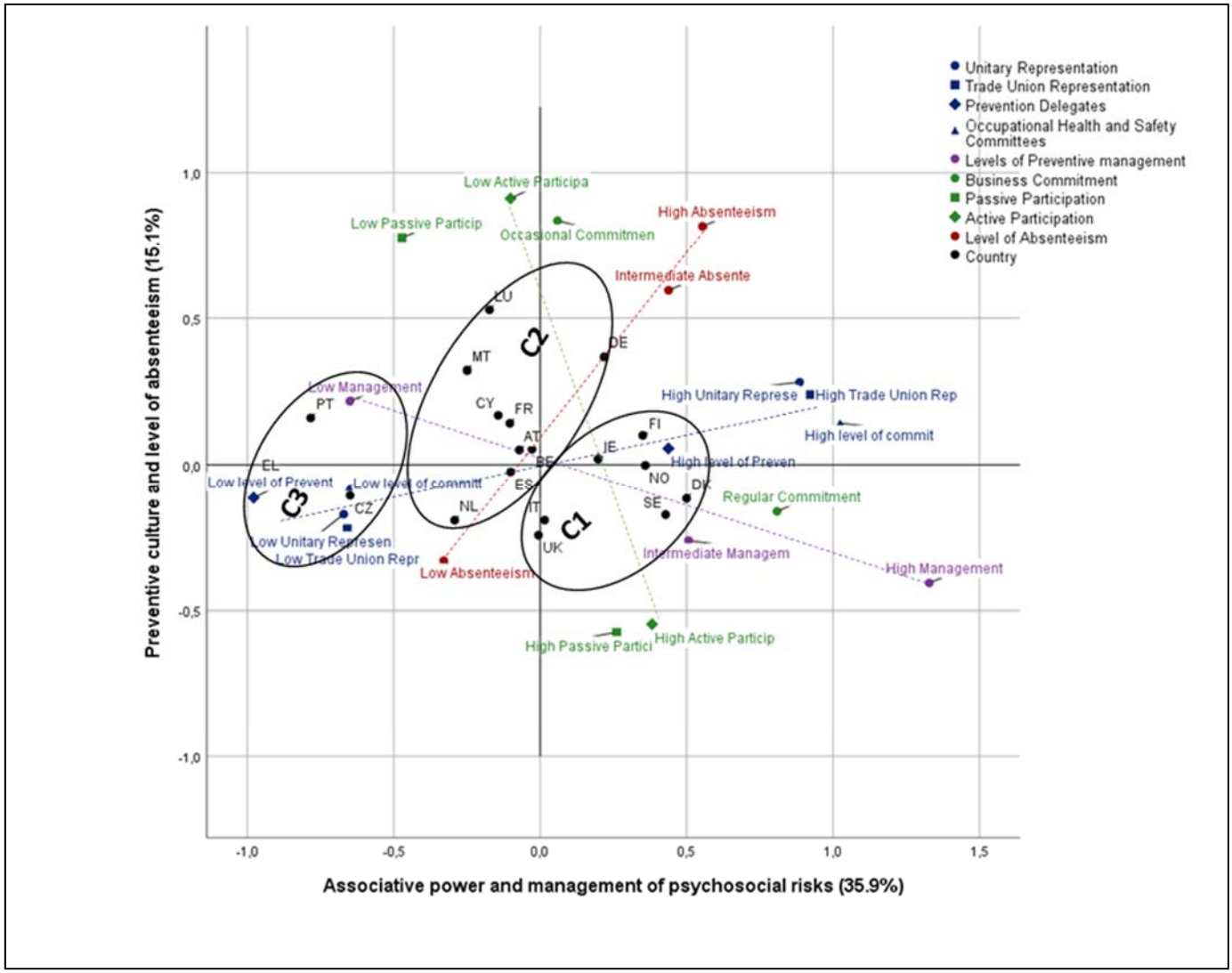
the extent that a small number of variables explain more than half of the differences between the models. Of the two main dimensions that make up the general model, the first dimension explains 35.9% of the cases (inertia); while the second resulting dimension has obtained an inertia that explains 15.1% of the cases. The calculations of the discriminant measures (Figure 4) can show which of the two dimensions corresponds to the indicators of the prevention management system. On the one hand, it is observed that both the levels of general and specialized representativeness in labor health and the indicator of management of psychosocial risks are predictors of the first dimension. On the other hand, the indicators of preventive culture and absenteeism are located in the second dimension, which coincides with the statistical analysis carried out in table 2, in the average in which only active participation is inversely related to absenteeism levels and, therefore, both variables share the second of the dimensions.

Figure 4: Discriminant measures of active model variables



The resulting model of the MCA is represented in figure 5 and, as can be seen in the positioning map, the first dimension places on the left those countries with a lower rate of general and specialized representation (blue line), as well as those with less preventive management (purple line); while the countries with greater representation and management are located on the extreme right. With respect to the second dimension, the countries with the lowest level of preventive culture are located in the upper left quadrant (green line) and those with the highest level are located in the lower right quadrant. On the other hand, the levels of labor absenteeism behave inversely to the indicators of preventive culture, with the lowest being located in the lower left quadrant (red line) and the highest in the upper right quadrant. To be more precise in determining the clusters in which to locate the countries with homogeneous characteristics, a hierarchical, bottom-up Ward analysis was carried out, resulting in three clusters or groupings of countries (black circles).

Figure 5: Segments of industrial relations systems in multiple correspondence analysis and factor space



As can be seen in figure 5, in the first of the clusters (C1) there are mainly the countries of the Scandinavian and Anglo-Saxon area (and Italy as a post-volunteer country) that, despite notorious differences in the models of governance, present as a common element the voluntary nature of their labor relations. These countries have historically advocated self-regulation mechanisms (centralized in the Scandinavian area and decentralized in the Anglo-Saxon area) for working conditions and, therefore, in the field of occupational safety and health they defend the postulates of the Robens Report, to which we have already referred. As can be seen in Figure 5, this model has a high associative power, both union and specialized in occupational health, which guarantees higher standards of preventive management as well as the self-regulated cultural activation of these management systems, with the result of a significant reduction in the rates of absenteeism.

For its part, in the second of the clusters (C2) are located mainly the Central European countries and some of the Mediterranean area as Spain or France, characterized by the institutionalized model of their labor relations and certain levels of corporatism (medium-high in the Germanic area and low in the Mediterranean countries). As we saw

in the introduction, countries with high state intervention in the regulation of labor relations focus their strategies on strengthening institutional power, especially through mechanisms for the erga omnes extension of collective bargaining agreements. This strategy generates ambivalent results because, while it is true that, on the one hand, it allows the coverage of collective bargaining to be expanded, on the other hand it weakens the power of association (free rider effect that discourages union membership and participation) (Beneyto, 2018: 44), which, as shown in Figure 5, results in a moderate representation in occupational safety and health that, in turn, weakens the active participation of workers (they are in the upper quadrant) and negatively impacts absenteeism rates. It can be concluded, therefore, that these countries may fall into a kind of mirage of institutional security in which prevention becomes a technocratic bureaucratic document management system, oriented towards formal compliance with the rules (environmental protection, as seen in the introduction), which, however, does not guarantee the real effectiveness of the system. Therefore, it is necessary to increase the associative power within the company in order to involve the workers in the design and implementation of the preventive cycle since, as we have seen in table 2, this is the most relevant determinant for reducing labor absenteeism.

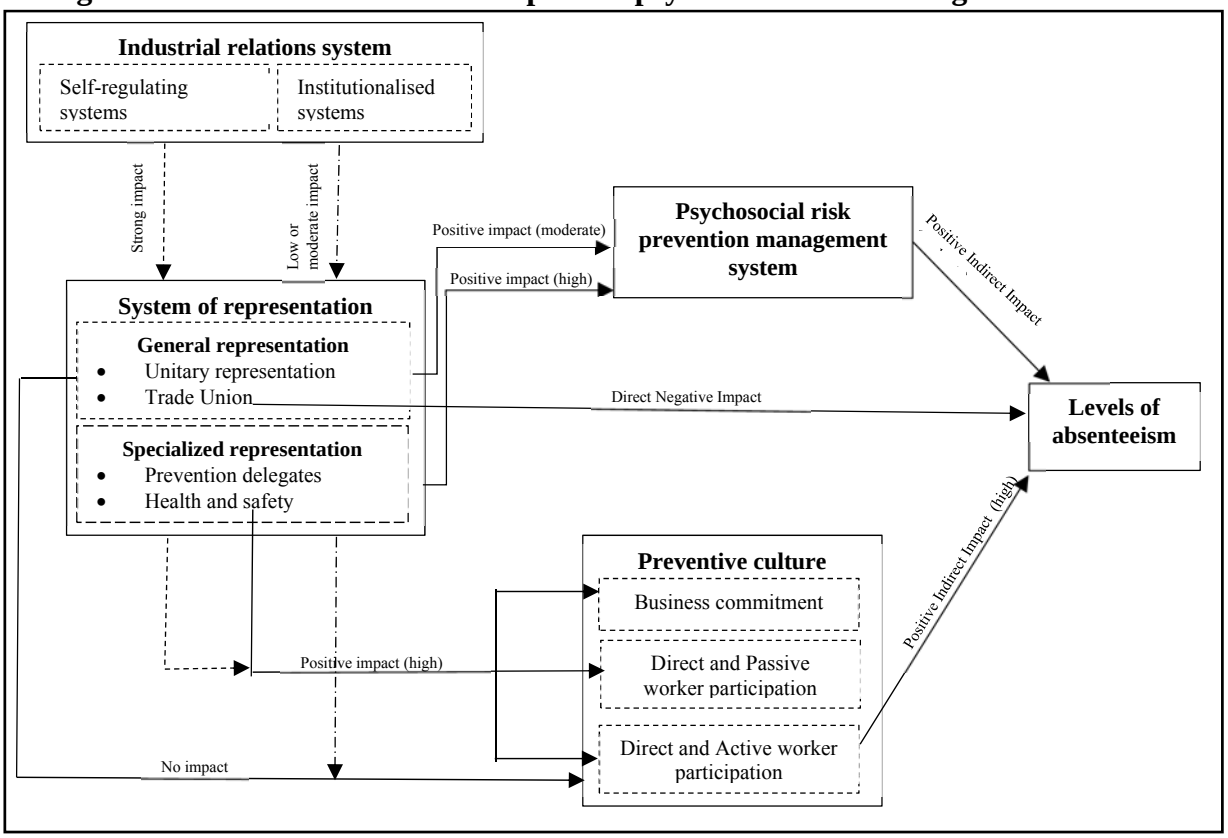
The third cluster (C3) includes the countries that have seen their institutional power resources degraded during the economic crisis (Portugal, Greece and, to a lesser extent, the Czech Republic). The conditionality policies imposed by the Troika based on a political exchange of neoliberal intergovernmentalism, focused on providing financial aid and bank bailouts in exchange for the flexibilization of the labor market, forced the Greek and Portuguese governments to deregulate the institutional arrangements that supported their labor relations systems (Gago, 2016). Specifically, the general effectiveness of collective bargaining agreements was eliminated in the Greek case and criteria of representativeness were established that were difficult to meet for their extension in the Portuguese case (Rigby and García-Calavia, 2018). This situation could explain the low levels of preventive management found in both countries in the MCA (Figure 5). Deregulation can lead, on the one hand, to business relaxation in order to comply with prevention standards and, on the other hand, make it difficult for representatives to monitor and pressure the compliance of these management standards and the visibility of the damages derived from the work. In fact, these countries present low labor absenteeism, which can be interpreted negatively to the extent that the low associative power derives in low union pressure in the notification of damages (Eaton and Nocerino, 2000: 278). Thus, when the institutionalized mechanisms of labor relations depend on government discretion (Schmidt on al. 2017: 2015), the changes in the political cycle can restrict, as has occurred in these cases, the mechanisms for the extension of agreements, weakening the unions that find it very difficult to resort to other resources of power that allow them to rebalance the structure of the negotiation (Koukiadaki et al, 2016: 80), which ends up activating a spiral of labor deregulation and deterioration of the systems of preventive management, workers' health and their capacity for representation.

4. Discussion and conclusions

This research has shown that the presence of workers' representatives guarantees higher standards of psychosocial risk management and the activation of a participatory culture in European workplaces, which confirms previous studies focusing on industrial risks (Coutrot, 2009; Ollé, et al., 2015; Shaw and Turner 2003). However, no direct positive impact of such intervention on workplace welfare outcomes has been found. In

fact, the intervention of union delegates seems to be related to higher levels of absenteeism. This situation is not new, since union presence has also been related to higher levels of accident rates (Fenn and Ashby, 2004; Hillage, et al., 2000; Litwin, 2000). There are various explanations that have been given for this situation: on the one hand, in the most dangerous workplaces there can be a "call effect" from the workers to the unions for their defense (Fenn and Ashby, 2004: 479; Nichols, 1997:149) and, on the other hand, the union presence could produce less underreporting of accidents due to their demands for compensation for professional contingency (Eaton and Nocerino, 2000: 278). With the results obtained in the present investigation we could incorporate a third hypothesis related to the functional diversity between the systems of general representation and those specialized in labor health. In this sense, the indicators that measure the indirect impact (of management and cultural activation) have been linked with greater intensity to the specialized representation systems (above all, with the joint committees of labor safety and health) and, therefore, could be related to a cooperative role in management. On the other hand, union representation linked to greater labor absenteeism could be assigned a confrontational role, to the extent that they fight for the visibility of labor damages. Rescuing the initial analytical model (figure 1), we present below the summary of the main findings obtained in the course of our research (figure 6).

Figure 6: Results of trade union impact on psychosocial risk management



As can be seen, the key element of the psychosocial risk management system is the direct and active participation of workers (which coincides with the findings of previous studies such as Robinson and Smallman, 2013), since it is the only indicator that has been linked to lower levels of absenteeism. In fact, the differences found between labor relations systems derive from the ability of representatives to activate the active

participation of workers. Thus, countries with self-regulating systems in the Scandinavian and Anglo-Saxon areas have a high level of both general and specialized associative power, which allows them to promote a culture of prevention in the workplace, resulting in moderate levels of absenteeism. For their part, the Central European and Mediterranean countries present adequate levels of preventive management because this is required by law, but, however, are not capable of activating a self-regulating culture within the company, which leads to higher levels of absenteeism. However, it seems that having a high institutional power does not guarantee the efficiency of the system and may lead to a false sense of institutional security. Therefore, we propose to strengthen the associative power in countries where institutional power is the main source of power, which may be particularly difficult, especially in Mediterranean countries, since the low market power of workers (high unemployment rates, temporality and rotation, segmentation of the business fabric into micro-SMEs, etc.) is not only linked to a probability of suffering occupational accidents (Benavides et al., 2006) but also erodes the associative power of unions (Gumbrell-McCormick and Hyman (2013).

The data seems to confirm this relationship. In the first case, we can see that Portugal has a standardized rate of 3,563 accidents per 100,000 workers in 2017, placing it next to France with 3,307 and Spain with 3,057 at levels that are almost double the EU-28 average of 1,666 (Eurostat, 2020). On the other hand, the associative resources available to workers' representatives in terms of prevention are comparatively weaker. Spain is the clearest example, since it went from recording a coverage rate of prevention delegates of 70% in ESENER-1 in 2009 to 51% in ESENER-2 in 2014, while Portugal and France recorded even lower levels (24% and 25% respectively), far from the European average of 58% (EU-OSHA, 2017), resulting in a spiral of erosion of preventive systems and the consequent increase in damage to the health of workers, without sufficient trade union capacity to reverse this trend. Some countries have supra-company networks of territorial prevention delegates (the most developed in Sweden, United Kingdom or Italy) that have proven to be able to penetrate the smallest companies and have had positive effects on the indicators of preventive management and the reduction of damages derived from work (Walters, et al., 2018), so that the development of this type of representation in the Mediterranean and Central European countries could be an effective alternative for the defense of workers and the promotion of occupational safety and health.

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