

**CONCLUSIONS FROM
VI NATIONAL
SURVEY ON
WORKING
CONDITIONS
(ENCT 2007)**

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**MINISTERIO
DE TRABAJO
Y ASUNTOS SOCIALES**



**INSTITUTO NACIONAL
DE SEGURIDAD E HIGIENE
EN EL TRABAJO**

7. GENERAL CONCLUSIONS

1. ORGANISATION AND PREVENTIVE ACTIVITIES

The results obtained from the Survey concerning the **ORGANISATION OF PREVENTION** indicate that only 55% of employees report that their workplace has a designated prevention representative; in enterprises of larger size, this percentage reaches 85%. A prevention representative is reported more frequently from employees in the Industrial sector and within that, in the chemical and metalworking sectors. A health and safety committee primarily exists in the majority of workplaces with more than 50 employees.

30% of those surveyed do not know which preventive resources their company has available. The most frequently selected, among those who respond, is the external prevention service, followed by a internal prevention service; the latter, logically, is more frequent the larger the size of the business.

As to **PREVENTIVE ACTIVITIES** carried out by businesses, it must be noted that, as may be inferred from employees' responses, during the previous year, studies or risk analyses have been carried out in one quarter of workplaces, most frequently in the Industrial sector, and within that, in the chemical and metalworking sectors. The frequency of these studies is almost half in workplaces held by temporary employees (18%) compared to those held by employees with indefinite contracts (34%).

The most frequently analysed aspects are, in this order: *work postures, physical efforts and repetitive movements; the safety of machinery, equipment and materials; noise; safety of facilities; the thermal environment, and workplace design. Thermal environment and mental and organisational aspects* are studied with greater frequency in larger businesses.

As a result of these studies, in half of cases measures were adopted, the most frequent being the *modification of facilities, machinery, equipment or materials and training and information activities.*

In addition, more than half of employees underwent a medical examination in the past year; another 8% had the option to undergo a check-up but did not do so. However, almost four in every ten employees report that this opportunity was not offered to them by their business; in particular, this group is most frequently composed of employees in the Agricultural sector, in microenterprises, temporary employees, women, those under 25 years of age, and employees of a nationality other than Spanish.

In the two years prior, almost half of employees had received information and training in the field of prevention. This percentage is far lower among employees of micro-enterprises.

Finally, with regard to the mandatory use of personal protective equipment, one third of employees must use personal protective equipment while carrying out their jobs. The equipment most frequently mandatory includes: *gloves and protective footwear for mechanical hazards; helmet, masks and goggles/screens to protect from impact.*

2. WORKPLACE CONDITIONS

With regard to **SAFETY CONDITIONS** the exposure of employees to accidental risks at work, the most frequent risks and the causes of these accidental risks, were analysed.

71% of employees consider themselves exposed to some type of accidental risk while performing their work. This percentage reaches higher frequencies, by activity sector, in Construction, and by employee occupation, among "vehicle drivers", "Construction and mining workers" and "mechanics, repairmen, and welders".

Employees who consider themselves exposed to some risk of accident identify on average 2.7 different risks. The risks most frequently identified by employees are: *cuts and pricks* (29%), *struck* (26.6%), *falls on the same level* (19.3%), *falls from a height* (15.8%), *falling objects, materials, or tools* (13.3%) and *traffic accidents* (12%).

The causes of most accident risks reported by employees are: *distractions, carelessness, absentmindedness, lack of attention* (45%); *working too quickly* (19.4%); *tiredness or fatigue* (17.8%); *traffic-related causes* (12.5%); and *strained postures or excessive strain* (12.3%).

When grouping causes of accident risks, "work requirements" (32.1%) predominate, followed by "personal factors" (27.1%), "workplace" deficiencies (18.5%), deficiencies in "installations and work equipment" (7.3%) and those specifically related to "occupational risk prevention" (6%).

In comparing the group of employees who considered themselves exposed to risk of an accident in their workplace with the group of employees who had suffered an accident in the last two years, it is evident that the personal experience the relevance of causes related to organisational work conditions increases while those related to personal factors decreases.

In regard to **ENVIRONMENTAL CONDITIONS**, the exposure of employees to chemical pollutants (handling and inhalation) and biological agents has been analysed; in addition, the thermal environment at the workplace has been studied and, finally, exposure to noise, vibrations, and radiation.

17.6% of employees handle noxious or toxic substances or compounds in their work, substances or compounds that are normally labelled. Indeed, 21% of employees indicate that in their workplace they breathe in dust, smoke, aerosols, gases, or noxious or toxic vapours.

Taking into account all those who handle or breath noxious or toxic substances, the total percentage of affected employees is 27.5%. By activity sector, the greatest exposure is reported in Construction and Industry. 13.4% of employees who handle or breathe in noxious or toxic substances or products affirm that they do not know the potential side effects hazardous to their health.

The presence of biological agents at the workplace is reported by 9% of employees: 2.7% indicate they must handle them in a *deliberate or intentional* manner, and 6.3% state doing so *involuntarily, normally, or sporadically*.

Of all employees who do not work outdoors most of the day, 24.4% consider that the temperature at their workplace is uncomfortable. In this sense, employees in the Agriculture and Construction sectors are those who most frequently consider that the working temperature in both summer and winter is uncomfortable; those in the service sector tend to report having better temperature and humidity conditions in their workplaces.

Concerning noise, 37% of employees indicate that at their workplace they must endure a *bothersome, loud or very loud* noise. Focusing the analysis on employees who report that at their workplace there is a *loud or very loud* noise, the most affected sectors are Industry (25%) and Construction (22%).

14% of employees report the presence of vibrations at their workplace. In 8.7% of cases, they refer to vibrations affecting their *hand or arm*, and in 5.3% to *full-body* vibrations. The vibrations affecting *hands-arms* affect 23.5% of employees in Construction and 16.6% of employees in Industry.

Finally, the study of radiation presence at the workplace shows that 8% of employees consider themselves exposed to radiation emission in their workplaces, a percentage reaching 14% in Industry. The most frequently reported radiation sources are *ultraviolet light* (excluding sun exposure), indicated by 3.7% of employees.

By activity sector, employees in the Industrial and Construction sectors are those who most often mention *ultraviolet* radiation (9.6% and 6%, respectively) and employees in services mention *X-rays, gamma rays* or handling *radioisotopes* (2.4%).

In the section relating to **WORKPLACE DESIGN** it is evidenced that 30.7% of employees consider some aspect of the design of their workplace to be deficient *always/almost always or often*.

The aspects that tend to be most bothersome to this subset of employees are: "having little space in which to work comfortably" (14.7%) and "needing to reach tools, items, or work objects placed very high or very low, or which require a extreme range of movement with the arm" (extended reach), (11.5%).

In regard to workers job, it is worth noting that "having little space in which to work comfortably" is seen significantly more among Construction and Mining employees (23.4%), Mechanics, repair people and welders (22.4%), and Lorry drivers, delivery personnel, taxi drivers, and other drivers (21.6%). "Needing to reach distant items" is also bothersome, especially for those working in Construction and Mining (29.3%), and for Mechanics, repair people, and welders (28.3%).

In regard to **NORMAL WORKING POSTURE**, most employees normally "stand on their feet, walking frequently" (42%) or *standing on their feet and hardly ever walking* (22.4%).

Standing on their feet and hardly ever walking is a frequent position, especially among Industrial mechanised production and assembly workers (50.2%), and

among Mechanics, repair people, and welders (40.7%). In regard to the *sitting position without getting up*, this is the most frequently reported position among Lorry drivers, delivery personnel, taxi drivers, and other drivers (58.4%), Administrative employees (57.2%), and Legal, social science and art professionals (53.7%).

The most painful positions are seen among Farmers, cattle herders, fishermen, and sailors (15.4% work *hunched over with their back bent*), Construction and mining workers (5% work *standing with knees slightly bent*, 8.8% work *hunched over with their back bent* and 4% *kneeling, crouching or prone*), and Mechanics, repairmen, and welders (6.3% work *hunched over with their back bent*).

The most frequent **PHYSICAL WORK STRAINS** to which employees are exposed *always/almost always* or *often*, are: "carrying out repetitive movements of the hands or arms" (55.4%) and "maintaining the same posture" (52.4%). There is also a significant frequency of employees very exposed to "painful or fatiguing postures" (23.5%), "handling loads", whether they be people or heavy loads (24%), and "exerting significant force" (18.5%).

By occupation, the percentages of employees in Traditional industry, artisans and employees in Industrial mechanised production and assembly stand out among those who often perform "repetitive movements of the hands or arms" (75.9% and 70.7%, respectively). The frequency of those who "maintain one same posture" is also high among Lorry drivers, delivery personnel, taxi drivers, and other drivers (78.7%) and Administrative employees (71.7%).

"Painful or fatiguing postures" significantly affect many employees in Construction and mining (53%), farmers, cattle herders, fishermen, and sailors (51.2%) and mechanics, repairmen, and welders (43.7%). "Handling heavy loads" or "exerting significant force" especially affect workers in Construction and mining (41.5% and 43.8%, respectively) and farmers, cattle herders, fishermen, and sailors (41.2% and 37%).

The percentage of men and women who perform "repetitive movements" or "maintain one same posture" is roughly similar. However, men are prone to adopt "painful postures", "handle loads" and "exert significant force" at a significantly higher frequency than women do.

Analysis of the relationship between work posture and workplace design suggests that those in very straining work postures (*on foot with knees bent, hunched over with their back bent, or kneeling, crouching, or prone*) are those who, at a higher frequency, report "having little space in which to work comfortably", having to "reach distant items", work in "zones of difficult access for hands" or who complain of "insufficient lighting". In addition, they are also those who most frequently work on "unstable or irregular surfaces".

On the contrary, those who remain seated *hardly ever getting up or getting up frequently* are those who most complain of having "a very uncomfortable chair".

With regards to the relationship between the most frequent physical strains (*always/almost always* or *often*) and more bothersome workplace design aspects, it is observed that those who adopt *painful or fatiguing postures, handle loads, or exert significant force* are those who complain significantly more about all aspects of workplace design, with the exception of the work chair, likely because they

mainly work standing on their feet.

The analysis focused on **MUSCULAR-SKELETAL PROBLEMS** indicated that 74.2% of employees report feeling problems in various parts of their bodies attributed to postures and strains related to the work they perform. Among the most frequent problems are those localised in the *lower back* (40%), *nape of the neck/neck* (27%) and the *upper back region* (26.6%).

Considering occupation, Health professionals, Farmers, cattle herders, fishermen, and sailors, and Lorry drivers, delivery personnel, taxi drivers, and other drivers report the highest percentages of discomfort (80.7%, 80.4% and 80%, respectively).

Those who report discomfort in the *lower back* are Farmers, cattle herders, fishermen, and sailors and Lorry drivers, delivery personnel, taxi drivers, and other drivers (53.4% and 52.3%); and problems in the *nape of the neck/neck*, Administrative employees (42%).

The percentage of employees with problems increases with age; as such, among those between 16 and 24 years of age the frequency is 65.8%, while it increases to 80% among those of 65 years of age or older.

From the analysis of the relationship existing between muscular-skeletal problems and work posture, it can be seen that those who normally work in the most difficult positions, *hunched over with their back bent, standing with knees bent, or kneeling, crouching, or prone*, are those who most frequently report problems, a result that agrees with all studies carried out on this matter.

As regards the localisation of the problems, it is also plausible that those who most often report problems in the *lower back* region are those who work *hunched over with their back bent, standing with knees bent and kneeling, crouching, or prone*; and that those who complain most about pain in the "nape of the neck/neck" are those who work *seated without getting up or getting up*, presumably because they mostly perform jobs that force them to tilt their heads.

The differences between those problems reported by the most exposed (*always/almost always, often*) to various physical work-related strains and those who are less exposed (*sometimes, rarely, almost never/never*) were compared. The result is that the most common musculoskeletal complaints are among the most exposed, both as regards the total complaints expressed and those relating to any particular body region.

In general, high percentages of affliction are obtained from variables related to **MENTAL STRAIN**. Performing a task tends to require, in large part, always or almost always, dealing directly with people (44.7%), maintaining a high or very high level of attention (41%), or carrying out tasks that are very repetitive and of short duration (22.1%).

Employees in the Industrial and Agricultural sectors are those who most report carrying out repetitive and short duration tasks (25%) and it is also in Industry where a high or very high level of attention must always or almost always be maintained (44.2%).

The Services sector is the one in which greater demands exist to carry out complex

tasks (9.4%), dealing with people who are external to the business (57.4%), working quickly (20.2%) or having to multi-task (23.8%).

While men report greater attention demands (43.8%), task complexity (10.5%) and a need to meet strict deadlines (15.1%), women report higher percentages of performing very repetitive and short duration tasks (23.4%), dealing with people who are external to the business (51.6%) and having to multi-task (21.8%).

Employees exposed to elevated demands for attention and repetitiveness or attention and complexity have significantly higher percentages of responses than those not exposed, for a set of psychosomatic symptoms (fatigue, altered dreams, headaches, changes in appetite or digestion, etc.).

In referring to **PSYCHOSOCIAL FACTORS**, and beginning with social support at the workplace, it must be noted that when an employee seeks help, he or she most frequently finds it in their co-employees (67.3%).

On the other hand, more than half of those surveyed (54.9%) report having opportunities to learn and succeed in their work, compared to 21.8% of employees who report lacking these opportunities.

In general, with respect to being able to choose or modify various aspects of their work, the following should be noted: 24.1% cannot decide when to go on holiday or take days off, 11.7% do not have the freedom to implement their own ideas at the workplace, 23.8% cannot vary their work method, 23.1% cannot modify the pace of their work, 23.5% cannot adjust the distribution or duration of breaks and 21.9% cannot change the order of tasks.

Direct demands from people (66.9%) are shown as the element that most frequently determines work rhythm, followed by the existence of deadlines that must be met (51.5%).

Employees who report less stability in the job, who feel they can lose it at any moment, present a higher percentage of psychosomatic symptoms (altered dreams, fatigue, headaches, dizzy spells, difficulty concentrating, memory problems, etc.) than those who feel secure in their jobs.

The highest percentages of people dissatisfied with their salaries are found in the Agricultural sector (41.1%) and in Industry (33.3%). It should also be noted that 39.5% of those surveyed feel their job does not offer them good opportunities for professional advancement.

With regards to personal relations, if the opinion on these is compared with the appearance of health effects in terms of symptoms, persons who say they do not have positive relations develop a higher degree of effects on their health with regards to all symptomatic aspects surveyed (difficulty or trouble sleeping, constant sense of fatigue, feeling tense, irritable, etc.) than those who claim to have positive relations.

From the total sample, the average number of hours worked per week is 39.9 hours. This average is exceeded by employees in the Agricultural sector (44.6 hours), Construction (42.5 hours) and Industry (41.2 hours).

There are statistically significant differences between the mean number of hours worked by men (42.1 hours) and those worked by women (36.7 hours); the same

occurs between those with an indefinite contract (40.3 hours) and those with another type of contract (37.6 hours).

The majority of employees, 42.9%, have a split shift workday, working in the morning and afternoon. Of all employees surveyed, 22.5% work in shifts and 8.6% work at night.

By gender, men take on split shifts more often than women do (48.7% and 35.2%, respectively), while women take jobs in a greater percentage than men with fixed morning shifts (32.4% and 20.7%, respectively).

In the Construction sector, the split shift workday is more common (65.2%) than in the other activity sectors. Fixed night work is more frequent in the Industrial and Services sectors.

A third of those surveyed (35.5%) report working on Saturdays always or frequently. 17.2% do so on Sundays and holidays.

Almost half of all employees (45.3%) tend to have extended workdays. 26.8% receive monetary or vacation compensation and 18.5% do so without any compensation.

The commute time from one's residence to workplace is in the majority of cases (77.6%) of thirty minutes or less.

23.8% of those interviewed report that their work schedule is well adapted to their family and social commitments, while 7% state that is not well adapted at all.

Threats of violence, *physical violence* committed by people who are external to the business, and *discrimination by nationality* are the most frequent problems related to violent or discriminatory behaviour at the workplace.

Employees who most frequently report being exposed to *psychological harassment* behaviour are women, employees of under 45 years of age, and employees in companies with large payrolls. Those who state being the victims of assault present psychosomatic symptoms in greater proportions than those employees who are not exposed to this type of behaviour.

3. NEGATIVE HEALTH EFFECTS

According to data from this Survey and coinciding with official negative health effect statistics, the sectors of Metalworking and Construction are those in which most work-related accidents occur. Work-related accidents particularly affect: Mechanics, repairmen, welders; Employees in industrial mechanised production; Assembly workers; and Drivers.

The group most frequently reporting having been diagnosed or being in the process of recognising some form of occupational disease was that belonging to the Transportation and Communications sector.

22.5% of employees consider that their job is affecting their health; with the groups most often perceiving this being Drivers, Artisans, Mechanics, and Health professionals.

The problems most often attributed to work by those surveyed are: back pain, neck pain, and stress.

Concerning the presence of other symptoms, fatigue, dream alterations, and headaches occur significantly in the working population, affecting 12.3%, 12%, and 10.4%, respectively.

In this Survey 94% of the sample could be classified, forming five internally homogeneous groups following cluster analysis. Two clearly polarised groups emerged (working conditions bother or concern to a lesser extent *versus* all working conditions bother or concern). In addition, three other groups appeared that corresponded to different combinations of the eighteen classification variables.

- First group. It is the most numerous group, made up of 39.2% of the sample surveyed. This group has the best perception of their working conditions, considering all aspects, on average, to be “not very bothersome/of minor concern”.
- Second group. This group is composed of 10.3% of the sample surveyed, and is the most critical or aware group. This group is very bothered/concerned by the eighteen classification factors.
- Third group. This group is made up of 11.6% of the sample surveyed. In this group the aspects causing trouble or concern in those surveyed centre primarily on psychosocial aspects.
- Fourth group. It is a group we can call “transition group A” because, although overall, they consider the various factors as “not very bothersome/of minor concern”, it is perceived a slight change of view in environmental and safety factors. 15.6% of the sample belongs to this group.
- Fifth group. It is a group we can call “transition group B” because, although overall, they consider the various factors as “not very bothersome/of minor concern”, it is perceived a slight change of view in psychosocial. 17.4% of the sample belongs to this group.