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# A Survey of Safety and Health at Work in Greece

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**Abstract:** The subject of Occupational Safety and Health (OSH) is increasingly gaining the interest of policy makers and researchers in European countries given that the economic and social losses from work-related injuries and diseases are quite substantial. Under this light, this paper will present an overview of the Greek legislation framework regarding OSH issues, and the current status of empirical research on the subject in Greece. In addition, the paper identifies the knowledge gaps and methodological shortcomings of the existing literature in order to contribute towards future research in the OSH field in Greece.

**Keywords:** Accidents at work, Occupational diseases, Safety.

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# **A Survey of Safety and Health at Work in Greece**

## **I. Introduction**

Occupational Safety and Health (OSH) and the goal of preserving and maintaining specific working standards, is drawing increasing attention by policy makers. In particular, a recent European Commission report (2009) states explicitly the goal of reducing occupational accidents and diseases among the 27 members of the EU. The “New European Strategy for Health and Safety at Work” sets the objective of reducing the total incidence of workplace accidents among the EU-27 by 25% until 2012. According to this report, approximately four million accidents at work resulting in more than three days of absence from work were recorded in the EU-15 for 2005. However, a significant decrease is noted in comparison to 1995, with a drop of 17.4% in working accidents. The decrease is much higher (at 35.6%) for fatal accidents. The observed decreasing trend in non-fatal accidents is higher for “transport, storage and communication” and “construction” sectors. However, the ‘electricity, gas and water supply’ sector recorded a significant increase in accidents risks from 1995-2005 by approximately 18%. In the case of fatal accidents, “construction”, “agriculture” and “transport” sectors exhibit the higher risks for occupational accidents leading to death. Males and younger age groups (up to 24 years of age) seem to be more vulnerable to the risk of a non-fatal working accident. However the incidence of fatal accidents seems to be higher among older workers. The economic and social costs are considered to be extremely high, resulting in a higher period of absence from work in comparison to 1995. In particular, 143 million annual days lost were recorded for the 15 EU members in 2005, corresponding to 35 days of absence from work per accident.

The goal of achieving work standards that will facilitate employees’ performance and safety is considered quite significant in Greece as well, since fatal work-related accidents are higher in comparison to the international level. In addition, the growing attention of OSH issues is demonstrated by the fact that the Greek Ministry of Employment and Social Protection has set the goals of recording a list of occupational illnesses, reducing work-related accidents and

synchronising and improving the monitoring mechanisms and the legislation implementation of OSH (Lamprousaki, 2009; Soumeli, 2002). According to the latest Annual Report of the Social Security Institution (SSI) for Accidents at Work in 2006, 12,845 accidents at work were recorded out of which 103 were fatal. The accidents in 2006 are lower by approximately 7% compared to 2005. It is also estimated that approximately 7 accidents occur for every 1,000 employees, whereas there are 9 accidents for every 1,000 males and 3 for every 1,000 female employees (SSI, 2006).

The paper will present a detailed review of current state of research regarding OSH issues in Greece. Section II will discuss the main points of the OSH legislation in Greece. Section III will present the research findings regarding the incidence and the risk factors of occupational accidents and diseases in Greece. It will also discuss the shortcomings and gaps that are observed in current research. A concluding section will close the paper.

## **II. The OSH Legislative Framework**

The first attempts of setting up regulations for the protection of workers in Greece appeared in the early 19<sup>th</sup> century. However, the provision and implementation of a safe working environment started to attract the interest of policy makers in the beginning of the 20<sup>th</sup> century. The main OSH broad categories that are addressed are: *(i) occupational injuries and fatal occupational accidents, (ii) occupational diseases, and (iii) psychological work-related problems* (Drakopoulos et al., 2006).

The legislation framework that was adopted in the 1980's established a universal health insurance coverage system aiming at reducing inequalities among members of the workforce. The "Hygiene and Safety of the Employees" Law was enacted in 1985 in order to address OSH issues at workplaces in Greece. However, this Law excluded from the regulation economic sectors such as manufacturing, mining and fishing. This was considered to be a great flaw of the Law, since the majority of work-related accidents are reported for blue-collar jobs. On the other hand, the 1985 Law acknowledged the obligation of employers to provide a safe working environment to their employees and furthermore, provides the right to employees to form OSH committees and monitor the implementation of the law. Finally, the

Law established the OSH National Council and Committees responsible for monitoring and facilitating its implementation in the labor market.

Several improvements and extensions were introduced in the subsequent years with a number of Presidential Decrees aiming to improve the legislation, cover wider workforce categories and protect the rights of sensitive working force categories such as pregnant women (Soumeli, 2003). Unfortunately, the Greek legislative framework is still lacking in monitoring occupational illnesses since there is a rather inadequate list of occupational illnesses/diseases that should be covered. Still, in 2007 a procedure was initiated to include the European list of occupational illnesses into national legislation which is crucial for the protection of employees and for their right to be compensated for several types of diseases (Lamprousaki, 2009).

The general spirit of the Greek law is that the employers bear the primary responsibility of providing and maintaining OSH standards in the workplace. Proven offenders of occupational health and safety regulations pay fines and they can even be forced to close down depending on the severity of their actions. Furthermore, the employees can take appropriate action against employers for work related injuries when the latter have not provided a safe and healthy working environment as defined by the regulations. In case of a work-related accident or disease, employees are entitled to benefits or disability pensions on privileged terms and conditions (Bazas, 2001). On the other hand, employees are also obliged to follow the OSH regulations. For instance, they are obliged to use equipment provided by the employer and seek knowledge and information on work-related safety and health through seminars, education programs, etc. (Drakopoulos et al., 2006). In general, the Greek legislative framework regarding OSH issues has been greatly updated and advanced in the past two decades following the relevant EU legislation (Bazas, 2001; Karakioulafi, 2005; Soumeli, 2003).

On the other hand, an important issue is the limited impact of the relevant legislation in Greece. It seems that several shortcomings in the Greek labour market hamper the efforts to achieve efficient OSH measures. Such shortcomings are the lack of trained personnel (physicians etc.) at workplaces; the lack of occupational health inspectors to monitor the

enforcement of the law; and the lack of education and information among employees and employers regarding occupational health. Studies emphasize the need for better education of the employees since they seem unable to handle working accidents by providing first aid, assessing vital signs and assisting the victims (Hatzakis et al., 2005; Karakioulafi, 2005). Christopoulou and Makropoulos (2007) and Karakioulafi (2005) provide findings of a national survey undertaken in 2003, in which approximately 36% of the respondents stated that there are no health and safety provisions in the company they work or that they are not aware of such provisions, while half of the respondents declared that there is no Occupational Doctor in their company. Similarly, about half of the employees of the sample are employed in blue-collar jobs -mainly in construction and manufacturing-, note that there is a lack of occupational risk assessment in their company, while the respective percentage for public sector employees is even higher (66%). Furthermore, the great majority of respondents (67% - 80%) argue that are not adequately informed about OSH legislation (Bazas, 2001; Karakioulafi, 2005; Kretsos, 2004; Hatzakis et al., 2005). In addition, Greece exhibits one of the lowest spending on social public policies compared to the EU average and at the same time, the national social policy is often criticized for the lack of preventive measures and treatment of occupational accidents and diseases once they occur (Christopoulou and Makropoulos, 2007).

The main bodies in Greece that monitor the OSH legislation implementation, provide consultation services and aim at improving the knowledge of the working population are: (i) *Ministry of Labor and Social Insurance* which supervises the *Center on Occupational Hygiene and Safety* and the *Advisory Committee on Occupational Hygiene and Safety*. Their main activities are based on the legislative framework regarding prevention measures. (ii) *The Ministry of Health and Welfare* which supervises the *Committee for Occupational Medicine* and the *Center for Diagnosis of Occupational Diseases*, is mainly operating at the research level concerning exposure to unhealthy substances or gas in working places and at the same time, providing consultation and guidance on prevention measures. (iii) *The Body of Labour Inspectors (SEPE)* has a critical role, since it inspects the labour market with the purpose of monitoring whether OSH measures are being adopted by employers. It is also responsible for enforcing the relevant legislation and punish offenders. Another of its objectives is to contribute to the education of both employees and employers regarding OSH

standards and risks. However, this body was established quite recently (1999) and it still lacks the sufficient number of specialized personnel that is needed to efficiently achieve its tasks. (iv) *The Information Centre for Workers and Unemployed (KEPEA)* is also a newly created foundation (operating since 2000) with the purpose of providing consultation on employment and social insurance issues and rights (Bazas, 2001; Christopoulou and Makropoulos, 2007; Glavinis, 2007).

At the European level, the continuously increasing interest of policy makers in OSH issues has led to the creation of the *European Agency for Safety and Health at Work* in 1994. Its main role is to gather and analyze technical and scientific information and research regarding OSH in the EU countries, to disseminate the available information and to promote and facilitate cooperation among member countries in the field of OSH. The *European Foundation for the Improvement of Living and Working Conditions* was initiated in 1975 with the main role to promote the improvement of the living and working conditions in Europe. All the issues of interest (such as the working time and the flexibility at work, the working conditions, the work-family balance life, etc) regarding the working life of the Europeans are under the area of interest of the Foundation. Finally, the newest OSH body is the *Advisory Committee on Safety and Health at Work* which was created in 2003 with the main role to participate in the decision making process and the implementation of such decisions related to OSH in the member states.

The majority of the Greek population is insured under public insurance schemes. The Social Security Institution (SSI) covers the vast majority of the Greek population (Bazas, 2001). Its main role is to grant allowances (pension, pharmaceutical and medical treatment, sick pay, work-related injuries and diseases) for working employees and the unemployed. Sickness allowances in money are provided in case of work-related accidents or sickness pay, with the amount granted being an increasing function of the duration of sickness absence (Drakopoulos et al., 2006). Sickness allowances can be provided in kind and include the use of the health care system with the SSI covering a substantial percentage of the cost of medical exams, surgeries, doctor visits, etc. while the remaining is paid by the employee (Bazas, 2001.) Work-related injuries and diseases are covered by the SSI and allowances/pensions are provided from the first day of the occurrence of the injury, under the restriction

that the absence from work exceeds 3 days. Yet, the current insurance system is heavily criticized because of its high degree of centralization, the observed fragmentation of coverage and its observed distortions in the allocation of resources (Glavinis, 2007).

### **III. Empirical Research on Occupational Safety and Health in Greece**

“Occupational injuries” are defined as injuries due to an external cause resulting from an exposure in risk factors associated with working environment. The definition corresponds to injuries that are employment-related and are the result of an event while a person is on work duty. Work-related injuries of workers are commonly separated into three groups: “work-road injuries, workplace injuries and injuries that occur whilst travelling to or from work” (Vlachantoni and Kuhn, 2008).

Unfortunately, empirical up to date research in Greece is rather inadequate. A limited number of studies have examined the risk factors associated with work-related accidents or the workforce groups that are more sensitive to such accidents. In addition, only a few of them utilised large samples of workers for a larger time span, in order to examine the frequency and the determinants of working accidents (Alamanos et al., 1986; Alexe et al., 2003) while the remaining studies provide findings based on small-scale personal interviews surveys. Furthermore, the majority of the existing studies (to the authors’ knowledge) do not employ econometric tools to derive their findings, but only descriptive statistics tools. Therefore their findings should be handled with caution, based on the lack of large sample data and the absence of econometric methods to validate the findings. The lack of studies with data on a larger time-span does not assist the understanding of the course of working accidents over time and their relationship with other factors related to personal and job characteristics over a person’s life.

Table 1 summarises the main indicators related to Occupational Safety and Health that can be drawn from the Institutions databases. The lack of indicators regarding occupational stress, job satisfaction, early retirement due to occupational injuries and diseases is evident and thus there is a great need to monitor in more detail OSH issues in the Greek labour market.



**Table 1. OSH Indicators and Databases**

<b><i>Indicators</i></b>	<b><i>Data sources</i></b>
<b><i>Occupational accidents</i></b>	IKA, SEPE, ESYE
<b><i>Fatal occupational accidents</i></b>	IKA, SEPE, ESYE
<b><i>Occupational diseases</i></b>	IKA, ESYE
<b><i>Mental health</i></b>	ESYE
<b><i>Absenteeism</i></b>	IKA

### ***Work-related Injuries***

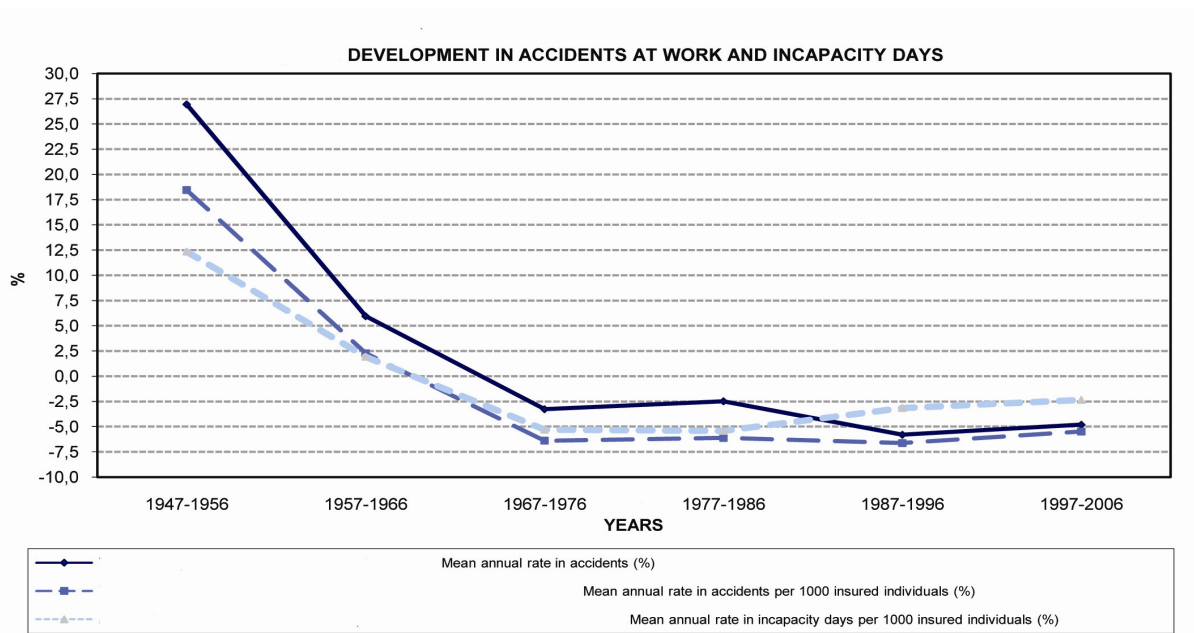
Alexe et al. (2003) examined the frequency of work-related injuries among the employees in the agricultural sector, namely upper limbs injuries, concussions, injuries from falls, etc. Their study provides interesting findings given that work in agriculture is related with severe injuries that often require hospitalization treatment. Their findings indicate that young workers, females and migrant employees working in the agricultural sector are the most sensitive groups regarding the frequency of working accidents. Alexopoulos et al. (2003) focused on the onset of musculoskeletal problems among nursing personnel employed in hospitals in the greater Athens area. Musculoskeletal problems are one of the most common categories of work-related diseases and have drawn the interest of researchers since the economic costs due to compensating schemes, medical expenses, disability pensions, lost days of work and reduced productivity are considered to be extremely high. The study found that heavy work load, high job demands and low job control are significant risk factors for musculoskeletal problems; while demographic factors (namely, age, gender, education, tenure) did not seem to affect the onset of musculoskeletal problems. In addition, age seems to affect the sickness absence rate in a negative way, e.g. older employees are associated with

increases in the sickness absence rates. However, the moderate size of the study sample indicates that the findings should be interpreted with caution. In line with the above, evidence regarding age differentials on working accidents also seem to strengthen the notion that both the incidence and severity of work-related accidents are increasing as age increases, independently of any physical impairment ( see also Alamanos et al., 1986).

The SSI's annual reports for the period 1988-2006, provide some useful insights on the OSH issues in Greece given that they refer to a large part of the native workforce. In 2006, 6 accidents occurred per 1,000 employees on average. It seems that males and younger and middle-aged workers (25-40 years of age) are those groups exhibiting higher frequency of working accidents. The majority of the accidents involve upper and lower extremities such as fingers, knees and ankles and also, fractures and contusion injuries occur more frequently than other types of injuries. Two of the most prevalent causes of accidents at work are collision with immobile objects and falling from a height. As expected, employees in blue-collar positions and mainly in the sectors of extraction and building trade, agriculture and hunting, mines quarries, constructions and manufacturing industries suffer higher accident rates than workers in other sectors.

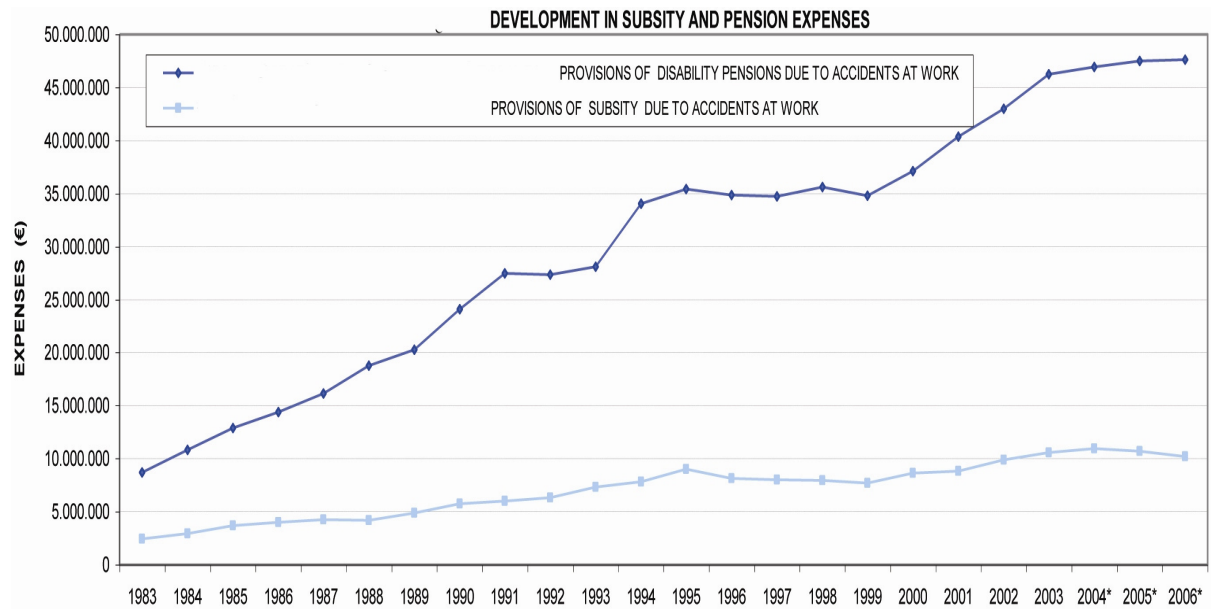
However, a notable drop is observed in the annual number of accidents, at approximately 4.8% mean rate of reduction. With respect to fatal work accidents, the SSI reports indicate that males and middle-aged workers (35-54 years of age) suffer from a higher incidence, while workers in the construction sector are experiencing higher risk of fatal working accidents in comparison to the rest. Still, fatalities from accidents at work exhibit a downward trend from 2000 onwards while an increase is recorded for the years 2001-02. Based on the course of work-related accident for the period 1988-2006, there are fewer accidents by approximately 60% in comparison to 1988, with an annual average drop of about 5.7%. As can be seen in Graph 1, there is a distinct downward trend. Graph 2 presents the development of subsidy and pension expenses granted by SSI during 1983-1006. Despite the downward trend in working accidents and incapacity days displayed in Graph 1, a distinct upward trend is noted in both categories of expenses, indicating that while the number of working accidents has decreased over time, the severity (measured by the subsidies and the pensions granted) seems to be increasing.

**Graph 1. Accidents at Work and Incapacity Days, 1947-2006**



Source: SSI (2007).

**Graph 2. Development in Subsidy and Pension Expenses**

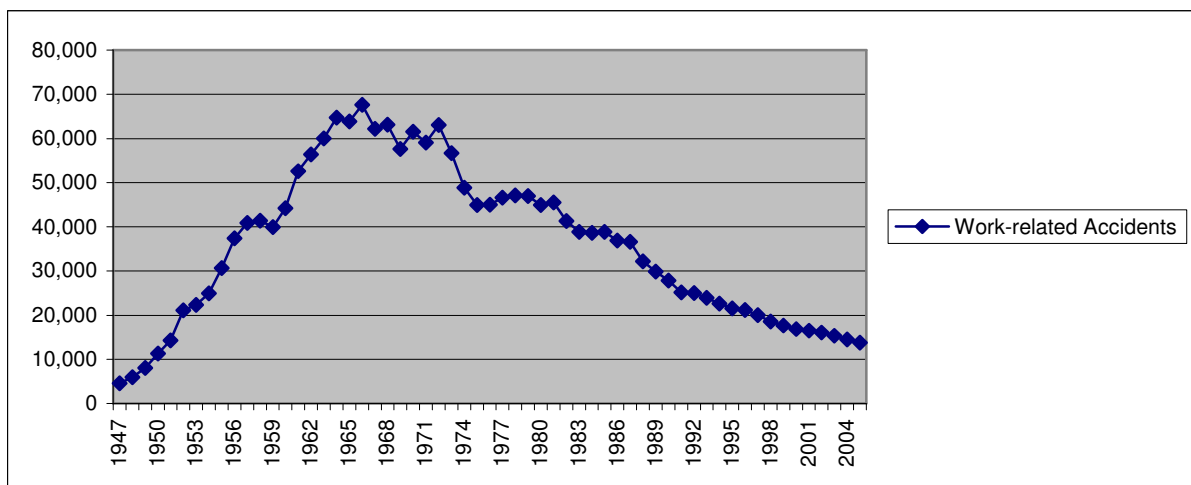


Source: SSI (2007).

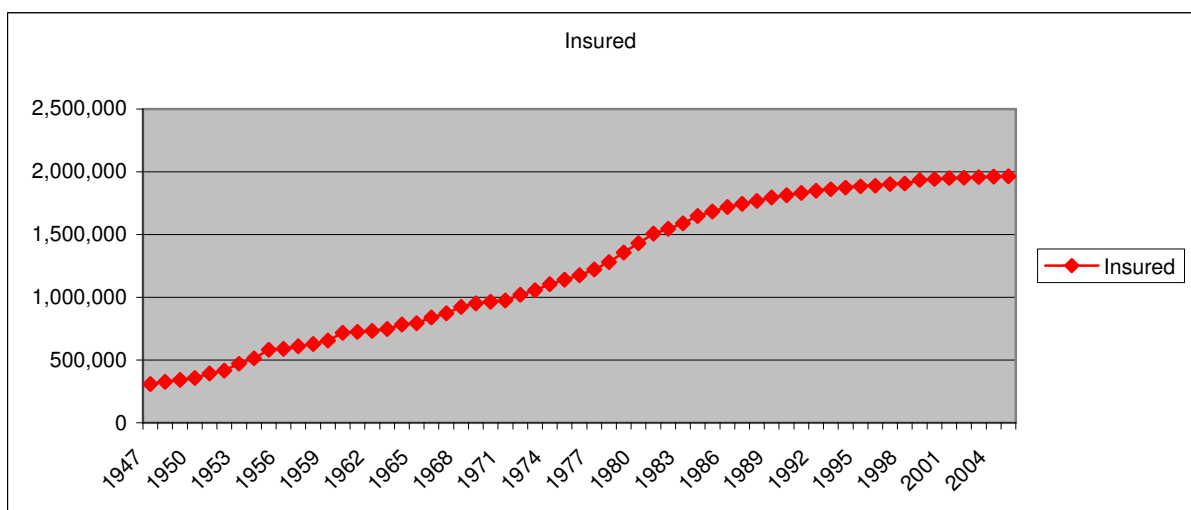
Given that data on accidents at work for the insured population in SSI are available since 1947 and onwards, a closer look at the time course of working accidents in Greece can be

quite useful. Graph 3 presents the annual number of working accidents in Greece for 1947-2005 as recorded by SSI, while Graph 4 presents the number of insured individuals in SSI. A downward trend in working accidents is evident, especially since 1978. Still for the year of 2005 a number of approximately 14,000 working accidents are reported, a figure which is still quite high. Nevertheless, as can be seen from Graph 4, while the number of insured in SSI is rising sharply, still working accidents are following a downward trend.

**Graph 3. Number of Working Accidents Recorded by SSI, 1947-2005**

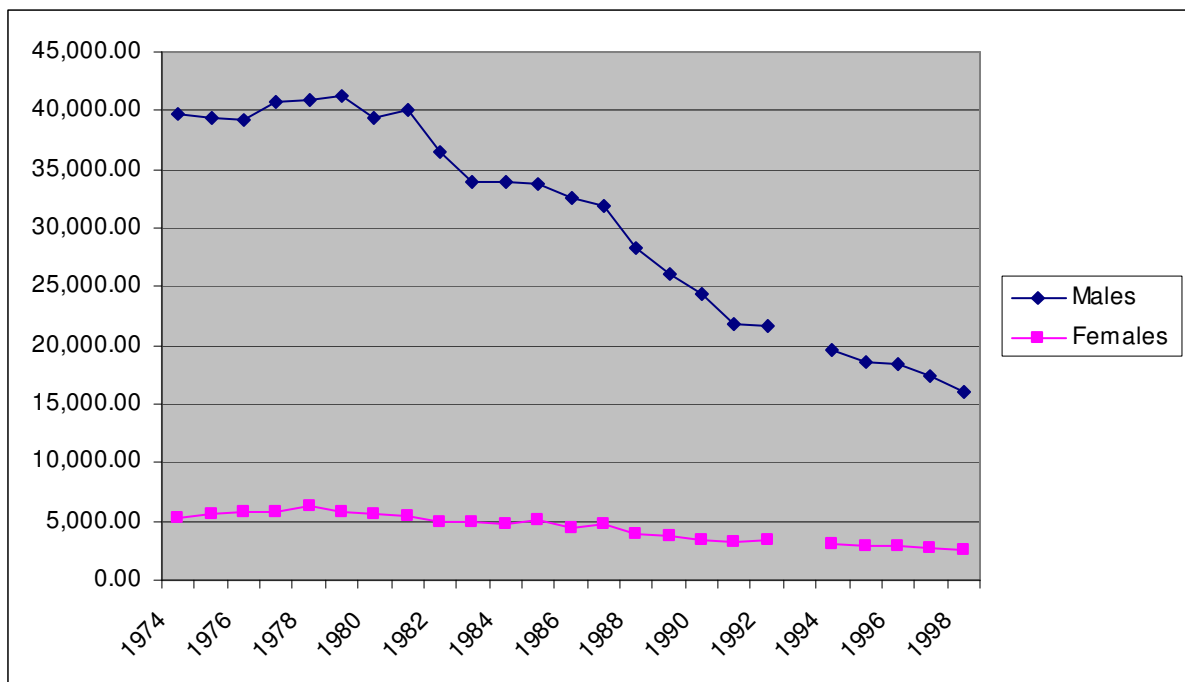


**Graph 4. Number of Insured in SSI, 1947-2005**



Graph 5 presents the number of work-related accidents disaggregated by gender from the SSI database for the years 1974-1998, without including the year 1993 for which the respective data were not available. A clear gender gap is observed, with males recording a much higher number of work-related accidents in comparison to female employees. However, both genders seem to experience a lower number of working accidents year by year.

**Graph 5. Number of Working Accidents Disaggregated by Gender from SSI Records, 1974-1998**



The findings of another study conducted in Greece in 2007 by the National Statistical Service (ESYE) are quite useful in discovering the determinants of work-related injuries. Despite its cross-sectional character, it employs information on a very large sample of employees and it also addresses the issue of work-related diseases, which is rather ignored by the national studies (Lamprousaki, 2009). According to the findings of the ESYE survey, (based on the total sample of about 4.7 million workers), 1.8% of workers reported at least one work-related injury during the past year. Furthermore, workplace accidents are more frequent for males, immigrants, workers in crafts and related trade workers, workers in plant and machine operators, while they are fewer for professionals and clerks. In addition, as presented in Table

2, workers of lower educational level are more susceptible to accidents in comparison to the rest. In particular, it seems that workers with primary education record the highest number of accidents, followed by workers with no education at all. The accident rate is very low for individuals with third-level education qualifications. In addition, middle-aged workers (55-64 years of age) are more prone to accidents in comparison to younger and older workers. However, one should keep in mind that due to the obligatory retirement in Greece for most professions at 65 years of age, it is likely that the employees over 65 years of age are underrepresented in the sample. Therefore their respective accident rates are probably underestimated.

**Table 2: Workers with at least one workplace accident over the last 12 months, by gender, nationality, age group and level of education (%)**

<i>Categories of workers reporting a workplace accident</i>		<i>At least one accident (%)</i>
<i>Gender</i>	<i>Men</i>	2.6
	<i>Women</i>	0.6
<i>Nationality</i>	<i>Greek</i>	1.5
	<i>Other</i>	5.6
<i>Level of education</i>	<i>Third-level education</i>	0.7
	<i>Secondary education</i>	2.1
	<i>Primary education</i>	3.0
	<i>No school at all</i>	2.9
<i>Age group</i>	<i>15–24 years</i>	1.5
	<i>25–54 years</i>	1.8
	<i>55–64 years</i>	2.3
	<i>65+ years</i>	1.2

Source: Lampousaki (2009).

There are two main sources of data regarding OSH information in Greece. The first dataset is a cross sectional dataset of approximately 4.5 million employees for the year 2007 drawn by the National Statistics Service (ESYE) and based on the “Survey on occupational accidents and work related health problems”. The survey draws a large number of information including a variety of indicators regarding the occupational and demographic characteristics of the respondents. The second database is comprised by the National Insurance Organization (SSI) records and draws information on work-related accidents and diseases of the insured workers in SSI, from 1948 onwards. The database provides information for all the employees who are registered in SSI, regarding their age, gender, educational and occupational status. It also provides a detailed record of the registered work-related injuries and diseases, such as the time and place of the event, the cause of the event, the allowance provided to the employee, etc.

The three main Greek databases on annual number of working accidents are: the Body of Work Inspectors (SEPE); the Social Insurance Organisation (SSI), and; the Statistical Service of Greece (ESYE). There seems to be though, considerable differences in the figures recorded among the three. For example, for the year 2001 the SEPE argues that work related accidents came up to 5,155 cases, while SSI provides a much higher number of 16,483 and ESYE similarly reports 14,440 cases of work-related accidents (Karakioulafi, 2005). This discrepancy in the data, which probably is due to the different samples used, hampers empirical research and this implies that a common information bank with homogeneous information on the incidence and the risk factors of work-related accidents and diseases, is needed.

### ***Work-related Diseases and Health Problems***

While adequate information seems to be available for work-related accidents, there is a substantial lack of data on occupational diseases and on early retirement due to work-related factors (Bazas, 2001). The majority of the studies examining work-related diseases and health problems, are relying on cross-sectional data derived from personal small-scale interviews. As mentioned before, SSI has recorded all occupational diseases eligible for allowances or pensions among its pool of insured employees. For the period 2003-2007, when the recording

of occupational diseases begun to be implemented in Greece, 103 cases were found, which are re-examined by the committees in a fixed period of time. The vast majority of these 103 cases are males (90 male employees) and they are mainly occupied in manual jobs, crafts and trade. The basic diagnoses are allergic contact dermatitis, toxic effect of metals and asthma. Chemical and industrial agents are described for most cases as casual agents of exposure to disease (SSI, 2007).

Because of the relevant scarcity of up to date data in Greece, the cross-sectional study in 2007 of ESYE also aimed at recording mental health problems due to work. The findings are displayed in Table 3 and they are in line with the above: males are found to be slightly more sensitive to the negative working conditions than females. A large portion of the employees' interview sample is found to be under great time pressure in their jobs with negative health effects (about 13%). Less than 1% of employees believe that they are exposed to violence or harassment. Musculoskeletal problems, stress, heart diseases and respiratory problems and infections seem to be the leading causes for the onset of work-related health problems.

**Table 3: Workers with work-related health problems, by gender**

<i>Gender</i>	<i>Total respondents</i>	<i>At least one health problem</i>	<i>No health problems</i>	<i>No answer</i>
<i>Total</i>	7,061,606	613,145	6,183,332	265,129
<i>%</i>	100	8.7	87.6	3.8
<i>Men</i>	4,013,077	359,604	3,521,690	131,783
<i>%</i>	100	9.0	87.8	3.3
<i>Women</i>	3,048,529	253,541	2,661,642	133,346
<i>%</i>	100	8.3	87.3	4.4

Source: Lampousaki (2009)

According to the annual reports of SSI, a large number of employees are exposed to undesirable working conditions which may be responsible for occupational stress, burnout and psycho-social diseases. As can be seen from latest data for 2006, a large number of



employees are experiencing work load and time pressure in work. Cases are also reported of employees experiencing either violence or harassment in their workplaces.

**Table 4: Reported Answers of Employees Regarding their Exposure to Undesired Situations at Work**

<i>Sex</i>	<i>Harassment</i>	<i>Violence</i>	<i>Work-load or Time Pressure</i>
<i>Male</i>	17,828 (0.6%)	22,225 (0.8%)	377,517 (13.7%)
<i>Female</i>	16,028 (0.9%)	6,935 (0.4%)	209,349 (11.9%)
<i>Total</i>	33,856 (0.7%)	29,160 (0.6%)	586,866 (13.0%)

Source: SSI (2007).

Work-related stress is an aspect of occupational health problems that has been the subject of many studies in Greece. Stress is known to be significantly affected by job tasks, organizational environment and working environment conditions (Koukoulaki, 2002; Ross and Altmaier, 1994; Schultz and Schultz, 1995). Furthermore, empirical research indicates that occupational stress is an important risk determinant of various physical and psychological health problems; namely hypertension, heart diseases, headaches and burnout (Fletcher, 1988). Absenteeism and tardiness are also greatly influenced by occupational stress with high economic costs. Human errors made under the effect of occupational stress may lead to financial costs, corporal injuries, or even loss of human lives. In addition, mental health disorders resulting from work-related stress can be quite costly in terms of health care usage, compensation expenses and days of work lost (Ross and Altmaier, 1994). Koukoulaki (2002) argues that occupational stress is the most common work-related health problem reported by European workers, while the pace of work, the time pressure and the repetitive work tasks are found to be strong determinants. Work-related burnout is also caused by stress and it is linked to symptoms linked to emotional exhaustion, depression, irritability and boredom (Schultz and Schultz, 1998). The main consequences of professional burnout are the loss of interest for the job tasks and goals, while it is often manifested through various physical and psychosomatic symptoms (Dimitropoulos and Filippou, 2008).

Occupational burnout has attracted the interest of researchers in Greece studying different working force groups such as nurses, physicians, teachers, librarians, doctors, and police officers (Antoniou, 2003; Antoniou, 2006; Bellali et al., 2007; Joiner, 2001; Koustelios, 2001; Vemi et al., 2007). Furthermore, the empirical findings indicate that job burnout is closely linked to job satisfaction (Iakovides et al., 2009). Job satisfaction is considered to be a key indicator in relevant studies since it is a strong determinant of individual performance and efficiency and it is largely influenced by personal and job characteristics. Tsigilis et al. (2006) and Platsidou and Agaliotis (2008) examined job burnout and its relationship with job satisfaction among Greek educators. Job satisfaction is found to be negatively related to work burnout, while work-related stress and burnout seems to be related to specific job characteristics (public or private sector, promotion and pay aspects, etc.). These findings are also supported by Nakakis and Ouzouni (2008) who argue that interrelationships at the workplace, the organizational ability and leadership and job satisfaction are strong determinants of job-related stress among the nursing personnel. Koustelios (2001) examined job satisfaction levels among a small sample of Greek teachers and shows that autonomy, career prospects and working conditions are strong determinants of job satisfaction. Autonomy and working conditions are also found to be strong determinants of job satisfaction among Greek accountants (Spathis, 1999). Interpersonal relations, working conditions, salary and organizational structure also affect job satisfaction among employees in the mental health sector (Labiris et al., 2008). Markovits et al. (2007) also notes that organizational commitment seems to play a role in the job satisfaction of the employees in the public sectors but not to the employees in the private sector and this is due to the large differences in working conditions between these two sectors.

#### **IV. Concluding Comments**

There seems to be a common point of consensus among studies examining the Greek case: although the legal framework is quite adequate, there is a need for both prevention strategies and enforcement of the existing safety regulations. Given the inadequate monitoring of the implementation of the legislation, changes to the monitoring mechanisms and a greater focus on prevention strategies rather than treatment strategies is proposed by many researchers (see

Karakioulafi, 2005). The need for more intense and systematic inspections at workplaces, as well as the need in training and OSH education of the labour force is emphasized by the majority of the relevant surveys presented in this study. OSH education should be a priority target so that employees can acquire adequate knowledge on both the risks and the prevention strategies of work-related injuries (Alexe et al., 2003). On the other hand, enrichment of worker protection legislation over the last decade should be combined with stricter monitoring measures by local SEPE offices (Lamprousaki, 2009; Soumeli, 1998) who also have to be reinforced given the significant shortage of staff (Bazas, 2001).

While OSH is an issue of interest in current research at the international level, a substantial research gap is observed in Greece. Studies that examine work-related accidents and diseases are quite limited in number and they have the disadvantage that they are of a cross-sectional character. Furthermore, the existing research results should be treated with cautiousness given that the majority of the studies draw information from small samples. In addition, more systematic research should be done on the determinants of injuries and on their effects on job participation and productivity. Priority should also be given to the population groups that report systematically higher incidence of work-related injuries (e.g. migrants, males, middle-aged employees) and to the blue-collar jobs which seem to record the higher incidence of work-related injuries and diseases.

## REFERENCES

- Alamanos Y., Linou A., Tountas Y. and Trichopoulos D. (1986), "The effect of age on the incidence and severity of work related accidents in Greece", *Iatriki*, 50: 477-480.
- Alexe D. M., Petridou, E. Dessypris N., Skenderis N. and Trichopoulos D. (2003), "Characteristics of Farm Injuries in Greece", *Journal of Agricultural Health and Safety*, 9(3).
- Alexopoulos E. C., Burdorf A. and Kalokerinou A. (2003), "Risk factors for musculoskeletal disorders among nursing personnel in Greek hospitals", *International Archives of Occupational and Environmental Health*, 76: 289–294.
- Antoniou A. S., Polychroni F. and Vlachakis A. N. (2006), "Gender and age differences in occupational stress and professional burnout between primary and high-school teachers in Greece", *Journal of Managerial Psychology*, 21(7): 682-690.
- Antoniou A., Davidson M. and Cooper L., (2003), "Occupational stress, job satisfaction and health state in male and female junior hospital doctors in Greece", *Journal of Managerial Psychology*, 18(6):592-621
- Bazas T., (2001), "Occupational Health Practice in Greece", *Journal of Occupational Health*, 43: 165–167.
- Bellali T., Kontodimopoulos N., Klafati M. and Niakas D. (2007), "Exploring the effects of professional burnout on health – related quality of life in Greek nurses", *Archives of Hellenic Medicine*, 24(1): 75-84.
- Christopoulou P. and Makropoulos C. (2007), "Work-Oriented Innovation in Greece", *WorkInNet European Project Report*, pp. 33.
- Dimitropoulos C. and Filippou N. (2008), "Professional burnout in health professionals", *Archives of Hellenic Medicine*, 25(5): 624-647.
- Drakopoulos S., Economou A., Kli E., Nikolaou A. and Theodossiou I. (2006), "The Case of Greece" in: Are the Healthier Wealthier or the Wealthier Healthier? The European Evidence, E. Johansson, A. Skalli, I. Theodossiou (eds.), ETLA Publications, Helsinki, Finland, pp. 173-198.
- European Commission (2009), "Causes and Circumstances of Accidents at Work in the EU", *Report*, pp. 240, Luxembourg.

- European Foundation for the Improvement of Living and Working Conditions, (2007), “Health and Safety at Work in Greece”, *report*, p. 8, Ireland.
- Fletcher B. C. (1988), “The epidemiology of occupational stress” in: C. L. Cooper and R. Payne (Eds), *Causes and consequences of stress at work* (pp. 3-50), Chichester: Wiley and Sons.
- Glavinis, A.. (2007), “Occupational health and safety: labor accidents and policies in the European Union and the Greek regions”, *MSc Thesis*, Charokopeio University of Athens, pp. 192.
- Hatzakis K. D., Kritsotakis E. I., Angelaki H. P., Tzanoudaki I. K. and Androulaki Z. D. (2005), “First Aid Knowledge among Industry Workers in Greece”, *Industrial Health*, 43: 327-332.
- Iakovides A., Fountoulakis K. N., Kaprinis St. and Kaprinis G. (2009), “The relationship between job stress, burnout and clinical depression”, *Journal of Affective Disorders*, 75(3): 209-222.
- Joiner T. (2001), “The influence of national culture and organisational culture alignment on job stress and performance: evidence from Greece”, *Journal of Managerial Psychology*, 16(3): 229-242.
- Karakoulafi C. (2005), “Survey on workplace health and safety”, *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report.
- Koukoulaki T. (2002), “Stress Prevention in Europe: review of trade union activities – obstacles and future strategies”, *TUTB Newsletter*, 19:4-11.
- Koustelios A. (2001), “Burnout among Greek sport center employees”, *Sport Management Review*, 4: 151-163.
- Kretsos L. (2004), “Labour Inspectorate reports on work in 2003”, *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report.
- Labiris G., Gitona K., Drosou V. and Niakas D. (2008), “A Proposed Instrument for the Assessment of Job Satisfaction in Greek Mental NHS Hospitals”, *Journal of Medical Systems*, 32( 4): 333-41.

- Lamprousaki S. (2009), "First national survey on workplace accidents and health problems", *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report..
- Markovits Y., Davis A.J. and van Dick R. (2007), "Organizational commitment profiles and job satisfaction among Greek private and public sector employees", *International Journal of Cross Cultural Management*, 7(1):77-99.
- Nakakis K. and Ouzouni Ch. (2008), "Factors Influencing Stress and Job Satisfaction of Nurses Working in Psychiatric Units: A research Review", *Health Science Journal*, 2(4):183-195.
- Platsidou M. and Agaliotis I. (2008), "Burnout, Job Satisfaction and Industrial Assignment-related Sources of Stress in Greek Special Education Teachers", *International Journal of Disability, Development and Education*, 55(1): 61-76.
- Ross R. R. and Altmaier E. M. (1994), "Intervention in occupational stress", Thousand Oaks, CA: Sage Publications.
- Schultz D. and Schultz S. E. (1998), "Psychology and work today: An introduction to industrial and organizational psychology", New Jersey: Prentice-Hall, Inc.
- Social Security Institution (SSI) (2006), "SSI-ETAM Accidents at Work Report for the Year 2006", pp. 80, Athens.
- Social Security Institution (SSI) (2007), "SSI-ETAM Occupational Diseases", *unpublished report*, Athens.
- Soumeli E. (1998), "Health and safety issues in the public sector", *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report.
- Soumeli E. (2002), "Concern over accidents at work", *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report.
- Soumeli E. (2003), "New legislation on health and safety at work", *Institute of Labour of the Greek General Confederation of Labour and the Confederation of Public Servants*, unpublished report.
- Spathis C. (1999), "Job Satisfaction and Employment Characteristics of Independent Accountants in Greece", *Spoudai*, 49(1-4):77-91.

- Tsigilis N., Zachopoulou E. and Grammatikopoulos V. (2006), "Job satisfaction and burnout among Greek early educators: A comparison between public and private sector employees", *Educational Research and Review*, 1(8): 256-261.
- Vemi N., Anagnostopoulos F. and Niakas D. (2007), "Physical and psychological functioning of Greek police officers", *Archives of Hellenic Medicine*, 24(1): 43-50.
- Vlachantoni Th. and Kuhn K., (2008), "Be safe at work", *Archives of Hellenic Medicine*, 25(1): 58-64.