# Stress at Work

by Tarani Chandola

BRITISH ACADEMY
POLICY CENTRE

# STRESS AT WORK

## A REPORT PREPARED FOR THE BRITISH ACADEMY

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# FOREWORD

Over recent decades there has been rising concern in many countries about the growth and consequences of work stress. From the 1980s Scandinavian countries introduced major policy interventions to reduce psycho-social risks at work and from the late 1990s the issue became increasingly central to the agenda of the European Union. In 2004 the European social partners signed a framework agreement to encourage stronger monitoring of stress levels and improvements in work organization to reduce stress risks. In a number of countries this led to national agreements between employers and unions, to more detailed industry-level negotiations in Denmark, the Netherlands and Sweden and in some cases to changes in labour law. In France, all companies with more than 1,000 employees have been obliged to start negotiations on how to reduce work stress. Such developments, however, have been notably absent in the UK.

The evidence of a marked growth in work stress emerged in a period of relative prosperity. However it is the potential implications for work stress of the recent economic crisis that led the British Academy to commission an overview of the current state of research. In a period when large numbers of employees are likely to see major changes in the nature and security of their jobs, it is important to ask what we have learned from research over the last two decades about the sources of work stress, its human and economic costs, and possible ways of reducing it.

Tarani Chandola's report makes it clear that there is now very consistent evidence that work stress has severe implications for employee health. It not only increases anxiety and depression but it leads to an estimated 50% increase in the risk of heart disease. At the same time it has significant economic consequences, partly through the costs to employers of sickness

absence, and partly through the costs to wider society of treating the ill health it produces.

The report argues that the effects of the recession and its aftermath could well aggravate factors that have been found to be major work stressors. Indeed there is already evidence that they are doing so. Centrally important for work stress are reductions in job security and increases in the level of work pressure. The scenario for the coming years is likely to be one of marked reductions in the workforce, particularly in the public sector which has previously known high job security. Reductions in staffing are likely to lead to increases in work pressure as organisations try to maintain or even increase levels of activity with fewer employees.

Although increased insecurity may be inherent in the process of workforce restructuring, research points to some factors that may give employers scope to reduce work stress even in times of economic difficulty. There is considerable evidence that the level of control that employees can exercise over their work and the supportiveness of the work environment can help mediate the negative effects of work pressure for psychological well-being. Research has highlighted the importance of the rewards (not necessarily monetary) given for work effort. It has also shown that stress is reduced where employers provide good information about proposed organisational change and where the procedures for taking decisions are seen to be fair. It has found that an important condition for a work environment that reduces risks to employees' health is that there are opportunities for employee representation in the workplace. As companies restructure their workforces, they should build on this knowledge to ensure that the potential risks of change are offset, as far as possible, by improvements in job design, careful thought about forms of support and higher levels of employee involvement.

The UK has tended to adopt a relatively non-interventionist approach to the problem of work stress. It has relied particularly

on trying to influence employers by establishing a set of 'management standards' under the aegis of the Health and Safety Executive. A disturbing conclusion of the report is that such guidelines have had little impact in reducing work stress even in a period when the economic climate was relatively favourable (although it remains possible that conditions would have been even worse without them). Given the challenge of the coming years, policymakers need to consider whether to be more proactive in ensuring that adequate measures are taken to reduce the risk of sharply rising work stress. The Scandinavian societies have taken a lead in developing forms of work organisation that are protective of employees' psychological health. The time has come, perhaps, to give serious policy consideration to how similar institutional developments could be encouraged in the UK.

**Professor Duncan Gallie, FBA,** Foreign Secretary (The British Academy) and Chair of the 'Stress at Work' Steering Group

# KEY MESSAGES

- Work stress has been increasing in Britain since 1992, especially for women. The number of female employees suffering from job-strain, an indicator of work stress, tripled from around 8% to almost 25% between 1992 and 2006.
- Since the 2008–09 recession, there has been a further steep increase in work stressors such as job insecurity, work intensity and inter-personal conflict at work, particularly among public sector workers.
- With cuts in government spending in the Emergency Budget 2010 directly affecting public sector employment, levels of work stress could increase even more among public sector workers.
- Work stressors increase the risk of depression and anxiety disorders, suicide, workplace injuries and accidents, and cardiovascular events. This results in sickness absence for employees with work stress.
- However, sickness absence rates have decreased since the 2008–09 recession despite an increase in work stress. This could be due to growing pressures to attend. Recessions could increase the phenomenon of "presenteeism", attending work because of the pressure to do so, which has consequences for individuals, employers and society.
- The economic costs of work stress to society have been estimated to lie between 0.5% and 1.2% of UK GDP. The costs to employers are much smaller than the costs to individuals and to society. Any estimated cost savings from planned cuts in government spending need to be balanced against the economic costs of work stress.
- There is no legislation in the UK specifically on work stress. The voluntary approved code of practice (the Health and Safety Management Standards) does not appear to have had an effect on reducing stress in the workplace.

- The introduction of "fit notes" may potentially increase the success of work stress claims if they are used in the legal process. However, these notes would require additional training for health care professionals so as to enable them to suggest appropriate work stress interventions for patients with work stress.

# SUMMARY

## WORK STRESS AND THE 2008–09 RECESSION

Within the context of recessions, the apparent trade-off between improving the quality of existing and future jobs and creating new jobs may become unbalanced with much greater emphasis on the latter. This imbalance could increase work stress among current and future workers, which in turn has health, economic and social costs.

The 2008-09 recession has already resulted in increased levels of psychosocial work stressors in Britain. There has been an increase in job insecurity, work intensity and inter-personal conflict at work. Job insecurity among public sector workers has doubled since 2009. Since 2009, public sector workers have also reported a greater increase in (and higher levels of) work intensity, inter-personal work conflicts, bullying by managers and work hours compared to private sector workers. With cuts in government spending in the 2010 Emergency Budget primarily affecting public sector employment, levels of work stress could increase even more among public sector workers. Any estimated cost savings from planned cuts in government spending need to be balanced against the economic costs of work stress.

## TRENDS IN WORK STRESS

Work stress has been increasing in Britain since 1992. The increase in work stress is particularly marked for women. Furthermore, there was an absolute increase of around 4–6

percentage points in most measures of work stressors in the one-year period from spring 2009 to spring 2010. In comparison, the increase in one of the measures of work stressors (job strain) from 1992 to 2006 was around 0.5–1.0% per year. This suggests that work stressors in Britain have increased markedly since 2009.

Favourable trends in flexible work arrangements allowing for greater work–life balance appear to have been reversed by the recession. Employees report greater dissatisfaction with their work–life balance, greater dissatisfaction with their organisation's support in helping them achieve this balance, and increased work hours since 2009.

Relative to other European countries, Britain in 2004 was close to the EU-27 average in terms of the work stressors – (high) job demands and (low) job control. British workers experience better job security and support from supervisors, about the same levels of job control, and higher levels of repetitive and monotonous tasks.

## THE COSTS OF WORK STRESS

Work stressors are associated with a wide range of health outcomes, including depression and anxiety disorders, suicide, workplace injuries and accidents and cardiovascular risk. This results in sickness absence for employees with work stress.

The recession could have ambiguous effects on sickness absence. Work stress increases the risk of sickness absence episodes. However, during recessions, people may become afraid of losing their jobs and so may become reluctant to take sickness absence leave even when they are ill. Sickness absence rates have decreased since the last recession. Recessions could therefore increase the phenomenon of "presenteeism", whereby employees attend work when they should be taking sickness absence. If employees who are ill are not able to rest and recover,

this may affect their health and productivity adversely, which in turn will have economic costs for themselves, their employers and society.

The economic costs of work stress to society have been estimated to lie between 0.5% and 1.2% of UK GDP. The costs to employers are much smaller than the costs to individuals and to society. The cost of sick pay is the main and primary cost to employers of work-related ill-health. However, during recessions, sickness absence may fall and presenteeism could increase despite an increase in work stress. So while there may be significant savings to employers in the short term due to reduced costs of sick pay, the costs to the individual and society will increase if employees facing job insecurity and other work stressors develop long-term health problems.

## REDUCING WORK STRESS

There are two main approaches to reducing stress in the workplace: stress management training (which focuses on increasing a person's ability to deal with stress) and workplace organisational interventions. Comprehensive approaches that include both stress management training and organisational interventions tend to yield positive outcomes for individuals as well as organisations.

There is no legislation in the UK specifically on work stress. There is a voluntary approved code of practice (the Health and Safety Management Standards) that is meant to guide employers in matters of work stress. Since the Management Standards came into being in 2004, there has been little decline in work stressors in Britain, and some evidence that work stressors have actually increased since 2009.

It is difficult for legal claims related to work stress to succeed, partly because courts may be reluctant to attribute the cause

of someone's psychological injury to work related factors. The introduction of "fit notes" to replace "sick notes" by health care professionals may increase the potential success of work stress claims if they are used in the legal process. These fit notes may also act as a trigger for employers to take more action to reduce stress in the workplace. However, these notes would require additional training for health care professionals in suggesting appropriate work stress interventions for patients with work stress.

# 1 INTRODUCTION

## 1.1. THE 2008–09 RECESSION

Work related stress is a topic of growing interest in the UK and elsewhere. There has been an exponential growth in media reports of work stress since 1990 (Stansfeld et al. 2004). Furthermore, the 2008–09 recession is likely to impact on the work stress of workers who still have a job, and also on future workers. There have been recent surveys on the effects of the recession on work stress that have received extensive media coverage (Mind 2010; Work Life Balance Centre 2010).

Policy responses to the recession should not only target those who lose their work, but also those who remain in the workplace. It is likely that their levels of work stress could increase, partly as a result of increases in work load, work hours and job insecurity. However, the aim of most post-recession governments is to reduce unemployment and create jobs; improving the quality of jobs and reducing work stress may seem less important. The "any job is better than no job" sentiment may resonate for unemployed individuals as well as for governments. The apparent trade-off between improving the quality of jobs and creating new jobs may become unbalanced with much greater emphasis on the latter. The question of what types of jobs will grow after the recession needs to be considered now and not later (Green 2009).

This report examines the evidence for trends in work stress in Britain, within the context of growing unemployment and job insecurity. In particular, the report:

- identifies the main determinants of work stress within the context of a recession;
- examines trends in work stress in Britain and comparatively across Europe;

- reviews the health, social and economic costs of work stress; and
- discusses what can be done to reduce work stress in the individual, organisational and legal contexts.

## 1.2. MODELS OF WORK STRESS

"Stress" is generally acknowledged to be a broad umbrella term, meaning different things to different people. For example, there are at least two common meanings to the term "work stress": the stress-generating working conditions and the stress response. So when people say they are "stressed out at work", they could be referring to the stressors they face at work such as their workload, or their response to those stressors in terms of their inability to cope, or any anxiety or worries arising from those stressors. Any model of work stress needs to clearly differentiate between the workplace stressor and the stress response.

Many studies of work stress do not commonly differentiate between the workplace stressor and the stress response. For example, a typical question asked in some surveys is "How stressful do you find your job?" A person responding "very stressful" to that question could be indicating that they have too much work to do, that they cannot cope with the work load, that they are worried by their workload, or a combination of all three. Job satisfaction is often used by employers and organisations to measure (lack of) work stress. However, as with the question asking people how stressful their job is, it is hard to know whether someone who says they are satisfied with their job does so because of their good, stress-free working conditions or because of their general positive attitude.

Currently, models of work stress focus more on measuring the stress-generating working conditions (the psychosocial work stressors) rather than stress responses, which are then

measured separately using appropriate physiological, behavioural or psychological measures, rather than being combined into a single measure of work stress. So, for example, the demand-control-support model (Karasek and Theorell 1990) proposes that job strain (the stress response) results when the psychological demands of the job are high (e.g. a high pace of work, with conflicting demands), and workers have little control over when and how they do their work. In addition, if such workers have poor support from their colleagues and managers, they could have isolated job-strain (or iso-strain).

Alternatively, the effort-reward imbalance model (Siegrist 1998) suggests that it is the lack of reciprocity or the imbalance between the effort someone puts in at work and the rewards they obtain from such work (either in terms of esteem or monetary rewards) that leads to stress responses. Effort can be extrinsic (driven by external working conditions) or intrinsic (driven by personality traits like overcommitment). Both the job-strain (and iso-strain) and effort-reward imbalance models tend to be commonly referred to as models of "work stress", although strictly speaking they measure "psychosocial work stressors". In addition to the job-strain and effort-reward imbalance models, there are other aspects of stressful working conditions such as job insecurity, organisational and procedural fairness, emotional labour, organisational change and role clarity that describe psychosocial working conditions.

These models of "work stress" (psychosocial work stressors) are commonly measured through employees' self-reported answers to questionnaires. As there is no "gold standard" to measure work stress, the validity of using cross-sectional (or "snapshot") survey questions has been questioned. A review of measures of psychosocial work stressors (Rick et al. 2001) concluded that in general, there is relatively little sound evidence about the reliability and validity of most measures of work stress. This report strongly suggested that the quality

and utility of work stress measures was limited, although the report also suggested the job-strain model as implemented in the Whitehall II study (Marmot et al. 1991) had demonstrated adequate psychometric properties of reliability and validity.

Partly in response to this criticism of existing measures of work stress, the UK Health and Safety Executive developed a risk indicator tool for work stress (Mackay et al. 2004; Cousins et al. 2004). This model of work stress identifies six key areas of work design (Management Standards) that, if not properly managed, are associated with poor health and well-being, lower productivity and increased sickness absence. These six Management Standards cover the main dimensions of work stressors which include:

- Demands (workload, work patterns and the work environment);
- Control (how much say the person has in the way they do their work);
- Support (the encouragement, sponsorship and resources provided by the organisation, line management and colleagues);
- Relationships (promoting positive working to avoid conflict and dealing with unacceptable behaviour);
- Role (whether people understand their role within the organisation and whether the organisation ensures they do not have conflicting roles); and
- Change (how organisational change is managed and communicated in the organisation).

There are some commonalities between all these models of work stress. The UK Health and Safety risk indicator tool shares several common dimensions with the demand-control-support model. High (extrinsic) effort on the effort-reward imbalance model corresponds closely to high work demands on the demand-control-support model. Job security is part of the

"reward" dimension of the effort-reward imbalance model and is indirectly measured as part of the work support and change dimensions of the demand-control-support model and the Health and Safety risk indicator tool.

The problem of validity of measurement is present in all types of social research. The absence of a gold standard to measure work stress does not necessarily mean that the measures described above are flawed. The measurement of multiple dimensions of work stress with multiple question items per dimension increases the reliability and validity of these measures. Some of the measures of work stress described in the rest of the report are single item questions from cross-sectional surveys with weaker validity. However, these single item measures come from time-series data such as the Labour Force Survey (Office for National Statistics 2010A), the British Skills Survey (Gallie et al. 2006) and the CIPD Employment Outlook Surveys (CIPD 2010A). The cumulative evidence of trends in these measures of work stress helps to overcome some of their methodological weaknesses.

# 2 DETERMINANTS OF WORK STRESS

Rapid changes in the nature of work and workforce composition through globalisation and competition have the potential to increase stress in the modern workplace (Cooper 2006). These changes include unstable labour markets, new forms of employment contract resulting in job insecurity, work intensification, and inter-personal work conflict and violence in the workplace. Such changes tend to increase during and after a recession.

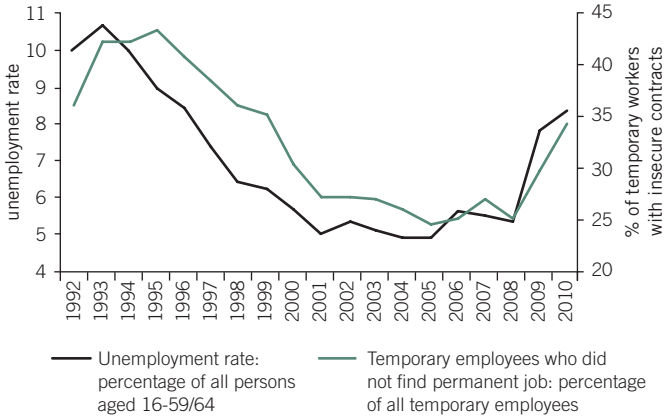
## 2.1. UNEMPLOYMENT, UNSTABLE LABOUR MARKETS AND JOB INSECURITY

In unstable labour markets, both permanent and non-permanent workers increasingly experience job insecurity, the latter especially so. Figure 1 shows the trends in unemployment and a proxy indicator of job insecurity taken from the Labour Force Survey in the UK. As there are no representative long-term time trend data on job insecurity from the UK, a proxy indicator of insecure employment contracts was derived from the Labour Force Survey which asks temporary workers the reasons why their contracts are temporary (this question was first asked in 1992). Those that said that they could not find a permanent job are assumed to have higher levels of job insecurity. This measure may indicate how hard (or easy) it is for temporary workers to find permanent jobs in the economy, possibly reflecting job insecurity in the wider workforce. However, there is the caveat that job insecurity among temporary workers may not be representative of job insecurity among the wider workforce.

Figure 1 shows a strong correlation between the trends in unemployment rate and job insecurity. The fall in the

unemployment rate after the 1990s recession was mirrored by a fall in job insecurity. Similarly the increase in the unemployment rate during the 2008–09 recession is mirrored by an increase in job insecurity. It is highly likely that as unemployment increases in the UK during the current period, psychosocial work stressors such as job insecurity will also increase, both among non-permanent employees as suggested in the figure, and possibly among permanent employees.

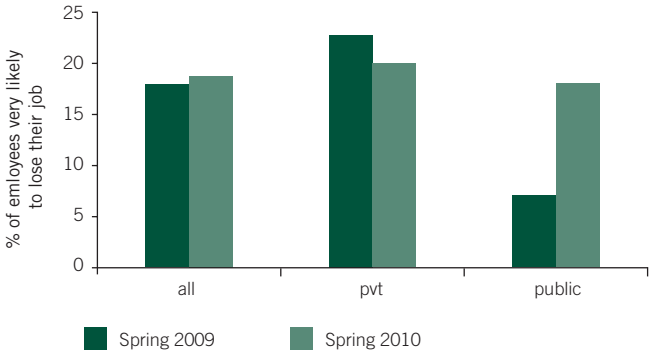
Figure 1: Trends in unemployment rates and the percentage of temporary employees who cannot find a permanent job. Labour Force Survey: 1992–2010.




The CIPD (Chartered Institute of Personnel and Development) employment outlook surveys (CIPD 2010A, 2010B, 2009A, 2009B, 2009C) have been tracking employee attitudes during the 2008–09 recession. Figure 2 shows that while private sector employees are more likely than public sector employees to think they could lose their current main job as a result of the economic climate, private sector employees feel more secure in their jobs in spring 2010 compared to spring 2009. In contrast, feelings of job insecurity have more

than doubled among public sector workers. The three surveys in between the two displayed in Figure 2 also show a steady increase in feelings of job insecurity since spring 2009. This suggests that the increase in feelings of job insecurity is real and not a reporting artefact.

Figure 2: Percentage of employees who think they are likely/very likely to lose their job, by private and public sector. CIPD Employment Outlook Surveys (CIPD 2010A).

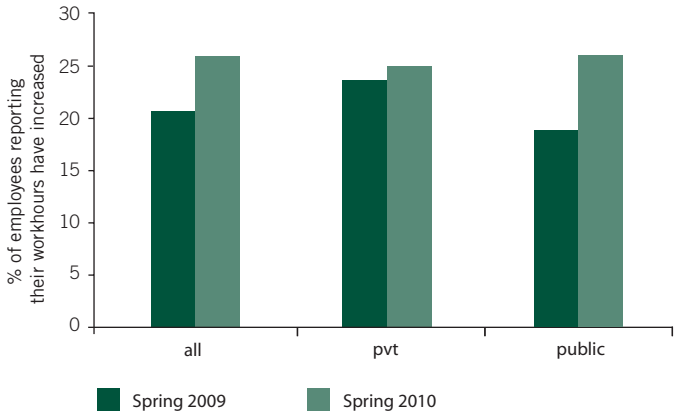



During the mid-1970s recession in the United States, unemployment rates rose from 4.9% to 8.5%. Higher occupational unemployment rates during this recession increased stress and lowered life satisfaction indirectly through reduced job control and increased job demands (Fenwick and Tausig 1994). The authors suggest that recessions affect workers' stress levels through changes in their routine working conditions that represent increased and continued exposure to stressful working conditions.

Downsizing, or the reduction in staff levels and hours worked in an organisation, is frequently used as a management tool to improve efficiency and reduce costs, even during non-recession periods. For example, the outsourcing of non-core

functions by many employers has led to the downsizing and restructuring of organisations in industrialised countries, and changes in working arrangements and relationships (Dewe and Kompier 2008). Such changes have led to increased feelings of job insecurity, not just by those employees who have lost their jobs, but also by those who have survived reorganisation and remain employed. A survey of British employees (CIPD 2006) found that 34% of respondents ranked organisational change/ restructuring as one of their top three causes of stress. During the 1990s recession in Finland, unemployment rose from 3% in 1990 to 15% in 1995. This increase was accompanied by major downsizing (a reduction in hours worked of more than 18%) which in turn resulted in greater job insecurity among the "survivors" (Kivimaki et al. 2000). In addition to increasing the workload of those remaining in employment (fewer workers doing the same amount of work), downsizing results in the threat of job loss becoming a salient stressor for more of the workers who remain (Dewe and Kompier 2008).

Figure 3: Percentage of employees reporting their work hours have increased in the last three months, by private and public sector. CIPD Employment Outlook Surveys (CIPD 2010A).



Recessions are characterised by a steep increase in unemployment rates and downsizing by employers. Such downsizing could imply longer working hours for those that remain in employment. The CIPD employment outlook surveys have tracked these changes from the 2008–09 recession by asking employees if their work hours have increased in the last three months. This is shown in Figure 3 – all employees reported an increase in work hours from spring 2009 to spring 2010. This increase was particularly marked for public sector employees.

## 2.2. NEW FORMS OF EMPLOYMENT CONTRACT

A review of emerging risks to work stress by experts (EU-OSHA 2007) identified new forms of employment and contracting practices, including precarious contracts (such as temporary, on-call or part-time contracts), and the trend towards lean production and outsourcing as the most important sources of increasing work stressors. Workers in these types of contract are more vulnerable than permanent workers. They usually carry out the most hazardous jobs, work in poorer conditions, and often receive less occupational health and safety training. These new forms of employment contract are associated with less job security than full-time permanent contract jobs (Benach and Muntaner 2007). In the context of a recession, such nonstandard forms of employment may become more widespread (Peck and Theodore 2007).

The isolation of workers could also increase as a result of new forms of employment contract and working arrangements (Kompier 2006). Some of these work arrangements (e.g. flexibility in starting and quitting times, working from home) could reduce work stress and improve job satisfaction. However, such arrangements also reduce opportunities for daily face-to-

face social interactions and peer and supervisor support (Dewe and Kompier 2008). Lack of communication can be a source of stress in virtual teams given the absence of verbal and face-to-face cues and resulting misinterpretations.

In Britain, there are now a record number of people in part-time and temporary employment because they cannot secure a conventional full-time job – 1.6 million people (Office for National Statistics 2010B). The long-term casualisation of the UK labour market, which has seen a decline in traditional full-time jobs, appears to have been accelerated by the recession.

## 2.3. WORK INTENSIFICATION

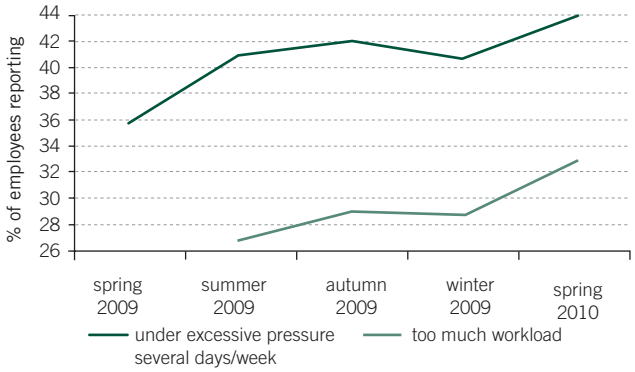
Work intensification (high workload and work pressure) has increased partly as a consequence of new forms of employment contract and job insecurity, and also as a result of the introduction of new information and communication technologies into the workplace (Green 2004). Higher workloads, greater work demands and time pressures shared between fewer workers can lead to an increase in work stress. Work intensification has been a significant feature of organisational change in the majority of developed countries since the 1980s. European statistics (EU-OSHA 2007) indicate that almost half of all European employees work at very high speed for three quarters or more of the time (from the European Working Conditions Survey 2005). In comparison with the previous surveys (1991–2001), work intensity is on the increase.

Work intensification is often accompanied by a worsening in working conditions, whether in terms of physical or psychological discomforts, nuisance or occupational risks. For example, new systems of work organisation, such as lean production and total quality management, have been introduced by the automobile industry throughout the industrialized world

to improve productivity, quality, and profitability. However, studies suggest that lean production creates intensified work pace and demands. Increases in skill levels are modest or temporary, whereas job control typically remains low. Thus, such working patterns may lead to job strain (high work demands and low work control) (Landsbergis et al. 1999).

In addition to quantitative aspects of work load (too much work, long working hours), there may be additional pressures to engage in continuous learning (such as continuing professional development for some occupations). These pressures may involve learning new skills for new aspects of the job, arising from more sophisticated software and technological innovations (Dewe and Kompier 2008). Such learning may not be actively supported by the workplace, with the expectation that the employee learns these skills in their own unpaid time.

Figure 4: Trends in the percentage of employees reporting they are under excessive pressure several days of the week and have too high a workload: spring 2009 to spring 2010. CIPD Employment Outlook Surveys (CIPD 2010A, 2010B, 2009A, 2009B, 2009C).




Qualitative evidence from the Irish construction industry suggests that work intensification may increase during a

recession (CLR news 2009). The construction sector was particularly badly hit as the building boom came to an abrupt end in 2008 with a loss of almost 100,000 construction jobs. The recession has resulted in an increase in unpaid overtime, work demands and time pressures among those that still have a job in construction.

The CIPD employment outlook surveys have been tracking work intensification since spring 2009 (CIPD 2010A, 2010B, 2009A, 2009B, 2009C). Figure 4 shows that there has been a steady increase in the percentage of employees feeling under excessive pressure several days of the week, and also reporting too high a workload. This figure suggests that work intensification has increased in the UK since the 2008–09 recession.

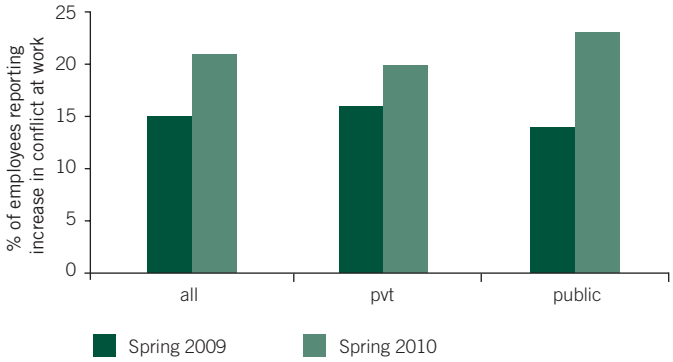
## 2.4. VIOLENCE AND INTER-PERSONAL CONFLICT AT WORK

With more and more people working in the service sector where client contact is a critical part of the job, incidents of workplace violence are rising (Dewe and Kompier 2008). The Union of Shop, Distributive and Allied Workers reported that every minute of the working day, a shop worker is verbally abused, threatened with violence or physically attacked (Usdaw 2007). Work-related violence is a widespread problem across all sectors and a major occupational hazard (http://www.unison.org.uk/acrobat/13024.pdf).

Violence at work can be psychological as well as physical. Different terms have been used to describe psychological violence such as "mobbing", "bullying" and "harassment". The Fourth European Survey on Working Conditions (EU-OSHA 2007) reports that 5% to 6% of all European workers have been subjected to some form of violence, bullying or

harassment. The level of violence has increased slightly in the EU-15 (from 4% to 6% during 1995–2005). In all European countries, female employees, especially young women, were more often the subject of bullying and harassment than were men. Migrant workers are also especially at risk of bullying. Bullying was mostly found in the service sector: it was reported by 14% of workers from the education and health sector, public administration and defence sector, and hotels and restaurants sector. Furthermore, 12% of workers from the transport and communications sector and 9% of workers from the wholesale and retail trade sector reported bullying.

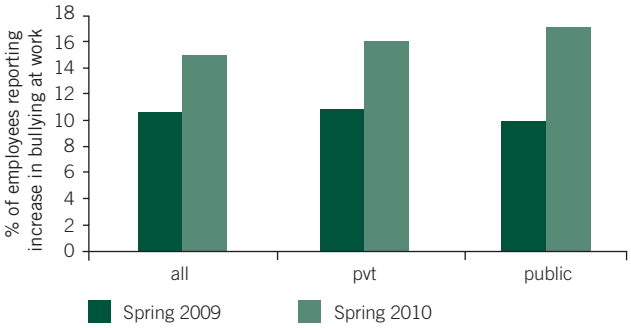
Figure 5: Percentage of employees reporting an increase in inter-personal conflict at work, by private and public sector. CIPD Employment Outlook Surveys (CIPD 2010A).




Restructuring, downsizing and other crises are important changes that often precipitate bullying in organisations (Salin 2003). Evidence for this is presented in Figures 5 and 6 above which show how the percentage of employees reporting an increase in inter-personal work conflict and bullying by managers has increased from spring 2009 to spring 2010. This is true in both the private and public sectors, but there is a greater increase in conflict and bullying reported by public

sector workers. Measuring workplace bullying through survey questions is problematic, with research producing very different estimates of workplace bullying (Coyne et al. 2003). However, surveys using a common method may be able to show genuine trends. The rising trend in inter-personal conflict at work and bullying by managers across the four CIPD employment outlook surveys since spring 2009, for example, suggests a real increase.

Figure 6: Percentage of employees reporting an increase in bullying by managers, by private and public sector. CIPD Employment Outlook Surveys (CIPD 2010A).



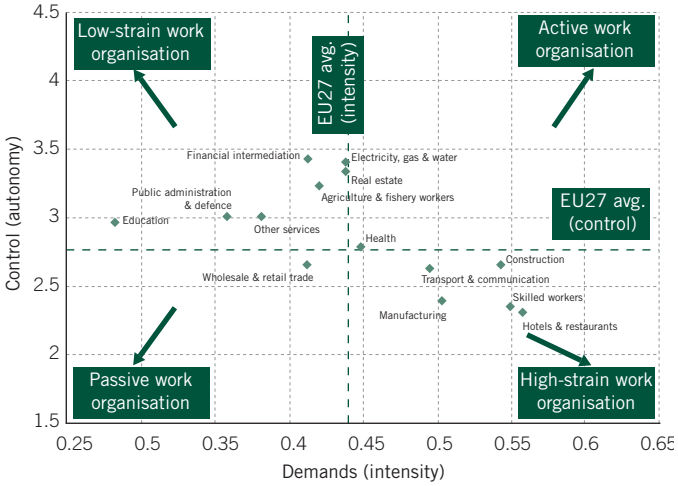

## 2.5. OCCUPATIONAL DETERMINANTS OF WORK STRESS

There is a stereotype that people at the top occupational grades, with the most important jobs, have the highest levels of work stress (Harkness et al. 2005). However, this view is not supported by the evidence which points to the reverse – it is those lower down the occupational hierarchy who often report the highest levels of work stressors.

Figure 7 plots the mean job demands and job control scores by industrial sector across European countries (Parent-

Thirion et al. 2007). Workers in hotels and restaurants, transport, construction and manufacturing are in the quadrant of "high-strain work organisation", with higher than average levels of job demands and lower than average levels of job control. In terms of job strain, these are the most stressful jobs in Europe. In contrast, the low-strain quadrant (with higher than average levels of job control but lower than average levels of job demands) contains the education, public administration and financial intermediation sectors. While it may be a surprise to see the finance and insurance sectors being described as being less stressful in terms of working conditions, this sector enjoys the highest levels of job control, which helps to offset the job demands within this sector. It is clear from this figure that occupations with the highest levels of work stressors (in terms of the job-strain model) are not those at the top of the occupational hierarchy.

Figure 7: Job demands and control, by sector (adapted from the 4th European Working conditions survey report. Parent-Thirion et al. 2007).



Even within white collar jobs, the most important and highest paid jobs are not the ones with the highest levels of work stress. Evidence from a study of public sector civil servants (the Whitehall II study) shows a clear occupational gradient in job strain (Chandola and Marmot, in press). Those at the top of the civil service hierarchy (e.g. Permanent Secretaries in Unified Grade 1) report the lowest average levels of job strain, while those at the bottom of the hierarchy (e.g. messengers, guards and supply carriers) report the highest levels (Figure 8). This occupational gradient was not apparent earlier on in their working careers. Instead, those at the top of the civil service reported the highest levels of job demands. However, although those lower in the hierarchy report lower job demands to start with, over their career lifetime, their job demands increase. Conversely, those at the top of the hierarchy report higher job demands initially, but they are able to reduce their levels of job demands over their working careers.

Figure 8: The occupational gradient in job strain in the Whitehall II study (note: a z score of 0 represents the mean job strain).

## 2.6. WORK–FAMILY CONFLICT, WORK–LIFE BALANCE AND FLEXIBLE WORKING ARRANGEMENTS

Technological advances have increased the connectedness of workers to their jobs. Employees can stay connected to their job even after leaving the work place. Such technological advances could potentially increase work hours, and conflicts between work and home life (Dewe and Kompier 2008). Irregular and/or inflexible working hours are further potential sources of work/family conflict. Non-standard hours such as shift, weekend and night work can be especially disruptive for work–life balance when an employee is in precarious employment.

On the other hand, family stressors may increase feelings of work stress. Interpersonal, marital, financial and child-rearing factors can increase the perception of work related stressors and vice versa. Stressful domestic situations may leave a worker fatigued due to lack of sleep, less able to cope with demanding tasks and with an increased perception of work stressors. Similarly, a worker may bring home their work stress and perceive even minor domestic conflicts as very stressful. These work–family spillover effects are significant because, since the 1970s, there has been a steady rise in the proportion of households where both spouses work. Along with a lengthening of the average working week, this has increased conflicts between the demands of the workplace and the home.

Family resources may also have a strong moderating influence on workplace stressors. A worker with good support networks may be able to cope with high levels of psychosocial work stressors. Similarly, work-based resources and support may allow employees with high work demands to cope with their work stressors. Organisations are now offering flexible work arrangements to help employees achieve better balance between work and family demands. According to legislation in the UK

(April 2003), all employees with children under the age of six or with a disabled child under the age of 18 have the right to request flexible work. Flexible work arrangements such as flexitime, telecommuting, job sharing and a compressed work week allow employees some level of control over when and where they work.

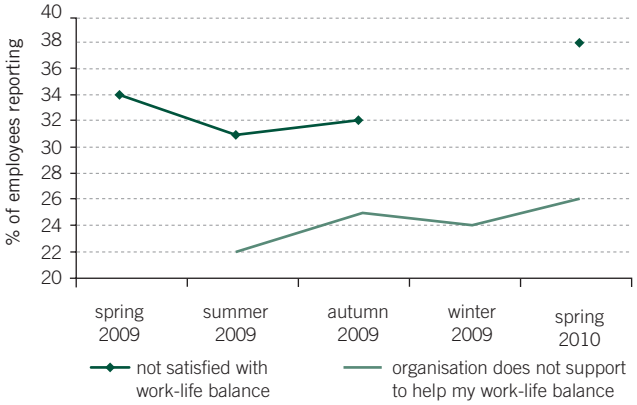
Research on flexible work arrangements suggests that they have positive outcomes such as lower work–family conflict (Anderson et al., 2002), better work–family balance (e.g. Eby et al., 2005), lower staff turnover (Dalton and Mesch 1990), and increased job satisfaction (Scandura and Lankau 1997). A meta-analysis conducted by Baltes et al. (1999) demonstrated that such flexible arrangements were positively related to employee productivity, satisfaction with work schedules and overall job satisfaction, and negatively associated with absenteeism.

Findings show that these arrangements enable individuals to integrate work and family responsibilities within their personal time and space and are instrumental in achieving a healthy work–family balance and reducing work stress. However, employees are often reluctant to take advantage of work–life programmes due to their fear of the negative consequences that may be caused to their career progress (Allen 2001; Thompson et al. 1999). Judiesch and Lyness (1999) found that taking leave of absence was associated with fewer subsequent promotions and smaller salary increases.

In the UK, the Third Work–life Balance Employee Survey (Hooker et al. 2007) found high levels of employee satisfaction and a significant increase in the availability of most flexible working arrangements between 2003 and 2006. However, this favourable picture of employees being satisfied with their employers' provisioning for a work–life balance may have changed since the recession. Figure 9 shows that there has been an increase in the percentage of employees reporting they are not satisfied with their work–life balance; and also an increase in

employees' dissatisfaction with their organisation in helping with their work–life balance since 2009.

Figure 9: Trends in the percentage of employees reporting they are not satisfied with their work–life balance and that their organisation does not help support their work–life balance: spring 2009 to spring 2010. CIPD Employment Outlook Surveys (CIPD 2010A, 2010B, 2009A, 2009B, 2009C).




During the recession, some employers have tried to keep their workers employed, but on reduced hours or flexible contracts. This could potentially improve the work–life balance for some employees. However, there is a difference between an employee choosing to work fewer hours and one being forced to accept a reduced-hours contract. Furthermore, on average, it appears that employees perceive their work hours have actually increased since the recession (see Figure 3). This suggests that their work–life balance may have been adversely affected by the 2008–09 recession.

# 3 HOW BIG IS THE PROBLEM OF WORK STRESS IN BRITAIN?

The exponential growth in media reports of work stress since 1990 (Stansfeld et al. 2004) might lead to the impression that there has been a steady increase in levels of work stress since the early 1990s. However, statistics on work stressors show a more complex picture (section 3.1). Moreover, there is no evidence that British workers report the highest (or lowest) levels of work stressors relative to other European countries (section 3.2).

## 3.1. TIME-SERIES TRENDS ON WORK STRESS

Official prevalence data for work-related stress in the United Kingdom are largely derived from the Self-reported Work-related Illness (SWI) Surveys that began in 1990 as a trailer to the Labour Force Survey (http://www.hse.gov.uk/statistics/publications/swi.htm) and which have continued on a regular basis. In 2008/09, 1.4% of workers working in the previous 12 months reported a health complaint of stress, depression or anxiety that was caused or made worse by work. In 1998/98, this figure was 1.6%, and in 1995, this figure was 1.0%. So while work stress by this measure has risen since 1995, it has fallen since 1998.

However, there are methodological problems with this measure of work stress as it requires in the worker the willingness and ability to "self-diagnose" depression, stress and anxiety and attribute it to the work context. There may be considerable differences in such an ability to self-diagnose such work stress within and between populations. Responses to the self-reported work-related ill health question depend on laypeople's perceptions of medical matters; they cannot be

taken as an indicator of the "true" extent of work stress. People's beliefs may be mistaken: they may ascribe the cause of illness to work when there is no such link; and they may fail to recognise a link with working conditions when there is one because of the multifactorial nature of ill health or the delay between work stressor exposure and ill health (http://www.hse.gov.uk/statistics/sources.htm).

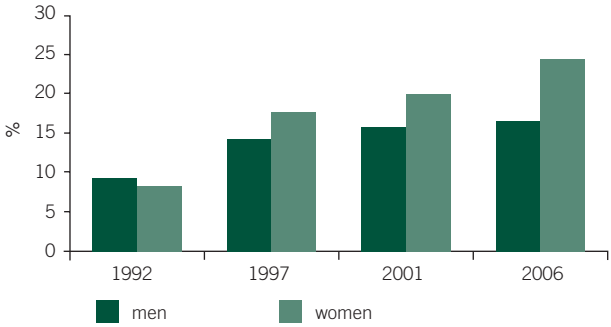
The British Skills Survey series is one of the few sources of time trend data on psychosocial work stressors. From 1992 to 2006, there has been a decline in task discretion (the degree of initiative that employees can exercise over their immediate work tasks, an indicator of job control) (Gallie et al. 2004; Green 2009). The decline in job control was mirrored by a decline in employees working in self-managing teams, indicating lower autonomy in the workplace (Gallie et al. 2010). During the same period (1992 to 2006), work intensification has increased (Green 2009). Since 1992, the proportion of employees who report strong agreement with the question "my job requires that I work very hard" has risen substantially – from about 26% to 39% in the private sector, and from 26% to 44% in the public sector.

Green (2009) has estimated trends in job-strain using the concept of job-strain from the British Skills Survey, although not with the same questions as in the job-demand-control model (Karasek and Theorell, 1990). A high-strain job was defined as having high required effort and low task discretion. Figure 11 shows that there has been an increase in job-strain since 1992, with a much steeper increase for women.

Another source of time trends data on psychosocial work stressors comes from the Psychosocial Working Conditions survey 2004–2009 (Packham and Webster 2009). This is an annual survey of employees commissioned by the UK Health and Safety Executive to monitor the Management Standards (see section 1.2). Generally the findings show little change

in psychosocial working conditions in Britain between 2004 and 2009 (Packham and Webster 2009). The Management Standards for work-related stress aim to improve psychosocial working conditions in Britain. However, there has not been any improvement since the implementation of these standards in 2004. It may be that a longer time period is needed to see changes in psychosocial work stressors at a population level. However, with the advent of the recession in 2008, the effects of these management standards on improving psychosocial working conditions may be limited.

Figure 10: Percentage of employees in British Skills Survey with "high-strain" jobs, 1992–2006 (Adapted from Green 2009).




More recently, the CIPD Employment outlook surveys in 2009 and 2010 document a steady deterioration in work stressors such as job insecurity (Figure 2) work intensity (Figure 5), work hours (Figure 3), work–life balance (Figure 10), workplace bullying by managers (Figure 7) and inter-personal conflict at work (Figure 6). There has been an increase of around 4–6% in most of these work stressors in the one-year period from spring 2009 to spring 2010. In comparison, the increase in job strain from 1992 to 2006 (Figure 10) was around 0.5–1.0% per year. This suggests that work stressors have increased steadily in Britain since 1992 and markedly since 2009.

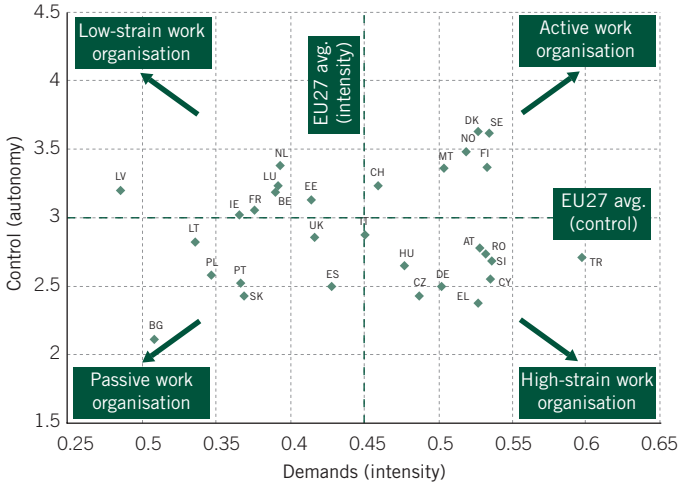
## 3.2. CROSS-NATIONAL COMPARISONS

An analysis of the comparative position of British workers in relation to European workers used data from the Fourth European Working Conditions Survey (Fauth and Mcverry 2008). The authors found that workers in the UK (compared to the EU-27 average) have better job security and support from supervisors when needed, about the same levels of job control, and higher levels of repetitive and monotonous tasks. Another analysis of the relative position of Britain in relation to other European countries in terms of job demands and control is shown in Figure 11. This figure shows that workers in Turkey, Slovenia, Cyprus, the Czech Republic, Germany and Greece are in the quadrant of "job strain" – they have high levels of job demands and low levels of job control. British workers are in the "passive work" quadrant, with relatively lower job demands and lower job control compared to the EU average. However, it is also clear from the figure that British workers are close to the average levels of job demands and job control in the EU-27 countries. These results suggest that while Britain is not among the countries with the highest levels of work stressors, it is also not the country with lowest levels of work stressors.

The use of global measures of work stress (such as the self-reported work-related Stress/Depression/Anxiety measure) in cross-national comparisons is problematic. There may be significant cultural and cross-national variations in the willingness and ability to attribute and diagnose (stress related) illness to a specific cause like work. This causes problems in the interpretation of cross-national differences in questions such as "Does your work affect your health?" followed by questions on the symptoms (including stress-related illnesses) which are affected by work. The Fourth European Survey of Working Conditions (Parent-Thirion et al. 2007) ranks the

UK as having the lowest work-related stress in Europe in terms of these questions. However this ranking does not necessarily mean that British workers are the least stressed in Europe, as the meaning of these global measures of work stress may differ considerably between countries. It may be more useful to interpret cross-national differences in work stressors, measured through perceptions of job quality or poor psychosocial working conditions, rather than cross-national differences in the perception that work causes illness.

Figure 11: Job demands and control, by country, from the Fourth European Working Conditions Survey (Parent-Thirion et al. 2007)




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

# 4 THE COSTS OF WORK STRESS

## 4.1. WORK STRESS AND HEALTH

The conceptual model of work stress adopted in this report distinguishes psychosocial work stressors from stress responses. Short-term stress reactions include physiological, behavioural and affective responses such as activation of biological stress reactions (Chandola et al. 2010), sleep disturbance (Akerstedt 2006) and changes in mood (Woo and Postolache 2008). These responses in turn affect long-term behavioural, physical and mental problems, increasing the risks of disease, workplace injury and sickness absence. Some of the extensive literature linking work stress with this diverse range of health outcomes is reviewed in this section. Cross-sectional surveys are particularly limited in terms of demonstrating the effects of work stress on poor health, as the direction of association may be reversed. Where possible, the literature reviewed below examines evidence from longitudinal studies where work stress is measured prior to the incidence of poor health.

### *4.1.1. Work stress and risk of cardiovascular disease*

There have been a number of reviews on the effect of work stress on coronary heart disease. Most reviews show a consistent pattern (Table 1). There is moderate evidence for some measures of work stress on the relative risk of heart disease (Eller 2009), corresponding to an increase of 50% in the relative risk of heart disease among those who report work stress compared to those who do not (Kivimaki et al. 2006). Further evidence on the effect of work stressors on cardiovascular risk come from a number of studies on the effects of job insecurity and organisational downsizing (EMCONET 2007).

Table 1: Systematic reviews of the association of work stress with heart disease

| 1st author | year | papers | analysis | Effect on CHD |
|---|---|---|---|---|
| Eller | 2009 | 33 | sys review | Moderate evidence for job demands, iso-strain, low support |
| Kivimaki | 2006 | 14 | meta-analysis | 50% excess relative risk among employees reporting work stress |
| Netterstrøm | 2005 | 35 | sys review | 23 studies show an association with work stress |
| Kuper | 2002 | 13 | sys review | 10 studies show an association with work stress |

Evidence from the Whitehall II civil servants study suggest that workers who report work stress more often in their working careers have increased risks of heart disease, obesity and cardiovascular risk (Brunner et al. 2007; Chandola et al. 2006; Chandola et al. 2008). Even a single report of work stress during the 12–15 years of follow up in terms of iso-strain (the combination of low job control, high job demands and low support at work) was associated with increased risk.

### *4.1.2. Work stress and common mental disorders/ depression/suicide*

A meta-analysis provides robust consistent evidence that (combinations of) high demands and low decision latitude and (combinations of) high efforts and low rewards are prospective risk factors for common mental disorders such as depression and anxiety (Stansfeld and Candy 2006). One of the problems in this field is finding out the extent to which work stress is

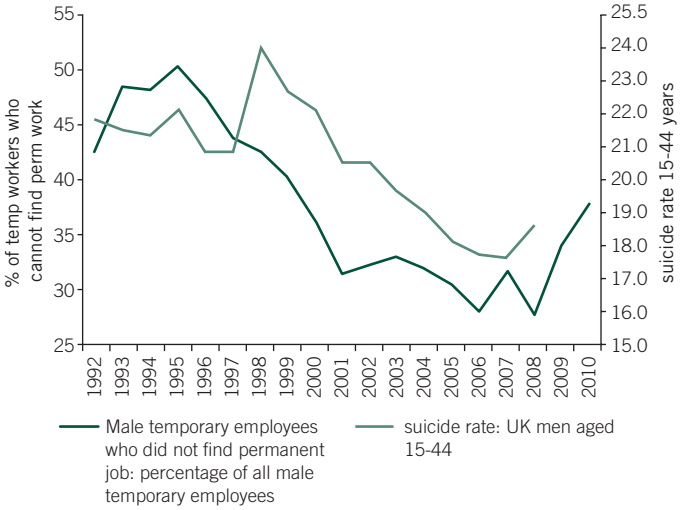
a cause of depression or anxiety or vice-versa. It is possible that people who are depressed view their working conditions as more stressful. This review (Stansfeld and Candy 2006) managed to get around those problems in two ways. Firstly it used measures of psychosocial work stressors (perceptions of job demands and control), rather than questions on how stressful the workers found their jobs. Secondly, it used studies that followed people up (longitudinal studies). Longitudinal analyses can exclude (or take into account) people with pre-existing depression or anxiety from their analyses so that the results are not influenced by a person's existing (poor) mental well-being.

A review found evidence that work stress is related to mood disorders and suicide (Woo and Postolache 2008). A prospective study investigated the association between psychosocial job characteristics and the risk for suicide among Japanese male workers (Tsutsumi 2007). Low control at work increased the suicidal risk more than fourfold. Most of the suicide victims had suffered from low social support, high psychological demand, low decision latitude, and long working hours (Amagasa et al. 2005).

Previous studies have shown a strong association between unemployment and suicide (Platt 1984). Some of this association may be due to insecure employment (or job insecurity) following unemployment (Lewis and Slogett 1994). Figure 12 shows the association between suicide rates among men aged 15–44 years and a proxy measure of job insecurity in the workplace among men. The measure of job insecurity has been described in section 1.3.1, and is a proxy indicator of insecure employment contracts derived from the Labour Force Survey which asks male temporary workers to self-describe the reasons why their contracts are temporary. There is a close correlation between the trends in job insecurity among men and the trends in male suicide rate. With the exception of

the increase in the male suicide rate in 1998, increases and decreases in job insecurity appear to be correlated with the suicide rate (Pearson correlation of 0.71). The correlation of male suicide rates with male unemployment rates over the same time period is less strong (Pearson correlation of 0.49). This suggests that the effect of unemployment on increasing suicide risk may be partly through increased work stressors like job insecurity. It also suggests that male suicide rates in this age group could increase given the continuing increase in unemployment and job insecurity, if there is a causal link between the two.

Figure 12: Trends in male job insecurity (Labour Force Survey) and UK male suicide rate aged 15–44 (ONS Annual Online Edition).




### *4.1.3. Work stress and accidents/injuries*

From reviews of the literature, high job stress is consistently associated with injuries such as upper extremity disorders including symptoms and disorders of the hand/wrist, elbow/

forearm, shoulder and back (Bongers, Krema, Laak 2002; Weiser and Cedraschi 1992). In the United States, working in jobs with overtime schedules was associated with a 61% higher injury hazard rate compared to jobs without overtime (Dembe 2005). Such job schedules with long working hours are more risky not merely because they are concentrated in inherently hazardous industries or occupations, or because people working long hours spend more total time "at risk" for a work injury. It is the overtime schedules themselves that raise the risk of injury. In Canada, perceived levels of work stress were associated with activity-limiting work injuries (Wilkins and Mackenzie 2007). A review of the effects of downsizing and job insecurity (Quinlan and Bohle 2009) found some evidence on their effects on occupational injury and violence at work.

A study of patient safety in Swiss hospitals found high demands and low job control were risk factors for patient safety (Elfering et al. 2006). When nurses work under high demands and low control, events that endanger safety are experienced by these nurses as more familiar, and hence are more likely to recur. This study adds to the literature that suggests a relationship between (medical) error and stress (Aiken et al. 2002). Increased work place injury and accident rates among non-permanent workers such as those on casual or temporary contracts have also been documented (EMCONET 2007).

### *4.1.4. Work stress, sickness absence and presenteeism*

A review of longitudinal studies on work stress, downsizing and sickness absence was conducted for this report. Longitudinal studies (that follow people up) are especially important when examining whether work stress influences sickness absence as people who are ill may be more likely to report stressful working conditions than healthy people.

Longitudinal analyses can get around this problem by only analysing the subsample of people at the baseline who are healthy to start with.

The results of this review (using appropriate search terms in the PubMed database) are displayed in Table 2. Work stress and downsizing are consistently associated with higher rates of sickness absence. All the studies found by the review reported statistically significant associations. Employees who reported having lower rewards from their job were more likely to have a sickness episode. Workers with lower job control and work support, higher job demands, high job strain, effort-reward imbalance, or organisational downsizing were more likely to have a sickness episode.

It is important to remember that these studies analyse the people remaining in employment after organisational change (or "survivors") and that any negative health outcomes are not a result of unemployment. Some evidence suggests that around half of the effects of downsizing on sickness absence was attributable to negative changes in psychosocial work stressors, impaired support from spouses and increased prevalence of smoking (Kivimaki 2000).

The recession could have ambiguous effects on sickness absence. It is possible that sickness absence rates could rise in line with the increase in work stressors. However, people may become afraid of losing their jobs in the context of the recession and so may become reluctant to take sickness absence leave even when they are ill. A recent survey suggests that sickness absence rates in the UK decreased during the last recession (CBI 2010). The concept of presenteeism has been used to describe the phenomenon when people, despite complaints and ill health that should prompt rest and absence from work, still turn up at work. If employees who are ill are not able to rest and recover, this will be costly to their health in the long run, and will also be costly for their employers.

Table 2: List of longitudinal studies in the PubMed database on work stress and sickness absence

| 1st author | year | sample: women, men | exposure | increased relative risk |
|---|---|---|---|---|
| Roelen | 2009 | 109w, 217m | low reward | m: 56% |
| Virtanen | 2007 | 6663w, 1323m | job strain | w: 17%, m: 41% |
| Ala-Mursula | 2005 | 12127w, 4012m | job strain | w: 27%, m: 21% |
| Ala-Mursula | 2005 | 12127w, 4012m | effort-reward imbalance | w: 21%, m: 41% |
| Westerlund | 2004 | 24036w+m | moderate downsizing | 7% |
| Vahtera | 2004 | 16521w, 5909m | major downsizing | 18 extra sickness absence days |
| Kivimaki | 2000 | 764w+m | major downsizing | 117% |
| Vahtera | 2000 | 530w+m | decreased job control | 30% |
| Vahtera | 2000 | 530w+m | decreased work support | 30% |
| Vahtera | 2000 | 530w+m | increase job demands | 10% |

m: men; w: women

relative risks were estimated using rate or odds ratios

## 4.2. THE ECONOMIC COSTS OF WORK STRESS

The estimation of the economic costs of work stress is problematic. This is because work stress affects a range of outcomes that have economic consequences. The size of this effect is not well established and varies considerably from study to study. In addition, these economic costs are often hard to estimate. For example, while it may be relatively straightforward to estimate the costs of sickness absence, it is much harder to estimate the costs of presenteeism. Furthermore, while most organisations monitor sickness absences, fewer investigate the causes of such absences, making it hard to estimate the costs of work stress due to sickness absence. Hence estimates of the economic costs of work stress range considerably, depending on data sources, the assumptions made and the models used.

### *4.2.1. Costs to society*

A Dutch study (Koningsveld et al. 2003) estimated the economic costs of poor working conditions, using a financial model of the social costs of poor working conditions on medical care, lost working days, absenteeism, disability and company performance. The study estimated that the total cost of poor working conditions in the Netherlands in 2001 was equivalent to 2.96% of GNP. Most of the costs to society of poor working conditions come from work-related absence and disability, which are mainly caused by musculoskeletal disorders (43%) and psychological disorders (40%). Other diagnoses associated with high costs were heart and vascular diseases (5%), problems with the nervous system including the eyes and ears (4%), and occupational accidents (4%). So one estimate of the costs of work stress could be 40% (the costs associated with psychological diseases) of the total cost of poor working conditions. However, this may be a conservative estimate as it

ignores the contribution of work stressors to the cost of treating musculoskeletal disorders and heart/vascular diseases.

Another estimate of the costs of work stress was derived by a French study (Béjean and Taieb 2005) which measured the economic costs of work stress in terms of:

- the number of deaths, years of life lost, and days of work losses arising from occupational stress;
- the direct costs of medical care for the illnesses caused by occupational stress; and
- the indirect costs of occupational stress, including the loss of potential output because of premature death, the loss of production through sickness leave, and all health care related spending related to these two losses.

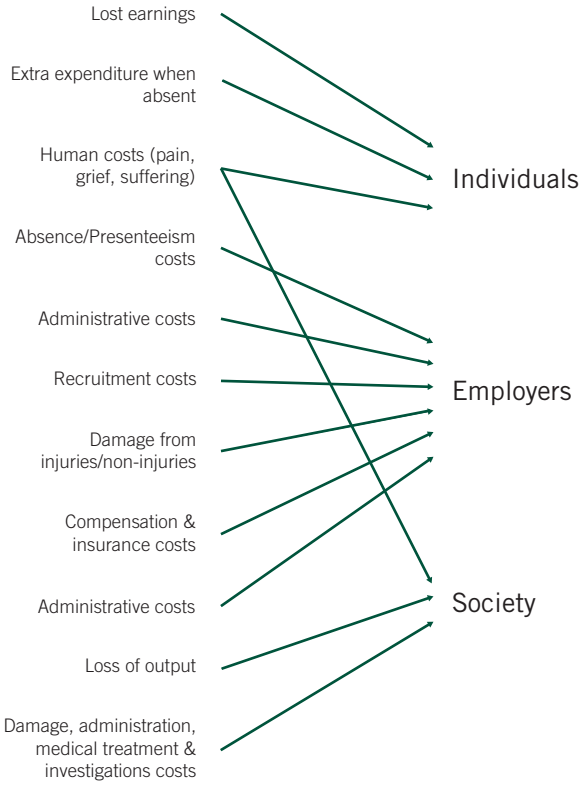
The study estimated the cost of work-related stress was around €1167–1975 million in France in 2000, which was equivalent to around 0.08–0.14% of the French GDP in 2000.

The UK Health and Safety Executive (HSE 1999) has estimated costs associated with work related ill health and accidents for three types of stakeholder: individuals, employers and society. Figure 13 shows the different categories that make up the total costs for each of these stakeholders. For individuals, the economic costs of work-related ill health and accidents comprise lost earnings, extra expenditure when absent from work and human costs in terms of pain, grief and suffering. For employers, the costs include absence costs (sick pay), costs of presenteeism and reduced productivity, compensation, insurance, administrative and recruitment costs. The costs to society include loss to the country's economic output, treatment, damages and administrative costs, and also include human costs.

In the UK, the economic costs of all workplace accidents and work-related ill health in 2001/02 have been estimated by the Health and Safety Executive in Figure 14 (Pathak 2008). The costs to society range between £20 billion and £36 billion,

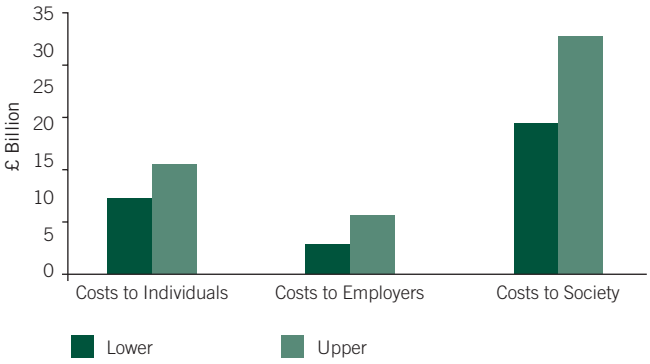
while the costs to employers are much lower, ranging from £4.5 billion to £8 billion. Pathak (2008) suggests that as long as employers do not bear the full costs of workplace injuries and work-related ill health, they will have few incentives to reduce workplace risks to health and safety. As these figures are for all workplace accidents and ill health, the figures for those resulting from work stressors will be lower.

Figure 13: Cost categories that constitute the economic costs to individuals, employers and society of workplace accidents and work related ill health (from HSE 1999).



In 2001/02, around 35% of all self-reported health complaints perceived to be caused or made worse by work were due to "stress, depression or anxiety" (Labour Force Survey). Ignoring the methodological problems of using this measure, a crude estimate of the economic costs of work stress to Britain could be 35% of £20–36 billion, which is £7–12.6 billion, or around 0.7–1.2% of the GDP in 2002. In 1995/96, this cost was estimated to be £3.7-3.8 billion (Cousins et al. 2004), or around 0.5% of GDP in 1996. The CBI has estimated the cost to the UK economy of all sickness absence in 2007 to be £13.2 billion (CBI 2008). They estimate around 40% of sickness absence to be due to work stress, which suggests that the cost of sickness absence due to work stress was around 0.9% of UK GDP in 2007. This underestimates the cost of work stress as it ignores the other cost categories of work stress in Figure 13.

Figure 14: Costs to Britain of workplace accidents and work-related ill health, 2001/02 From Pathak (2008).




### *4.2.2. Costs to employers*

A systematic review of the microeconomic costs of work-stress (Brun and Lamarche 2006) concluded that these costs can be broken down into two broad categories that are not mutually

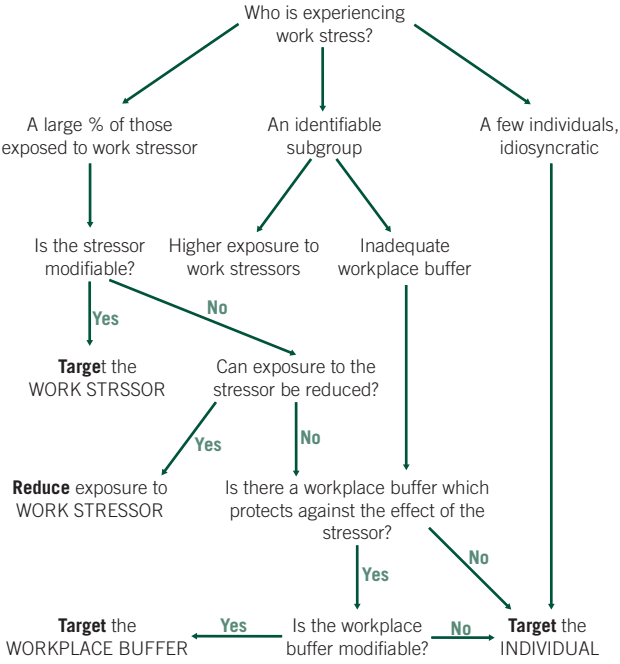
exclusive: absenteeism and presenteeism. Contrary to popular belief, presenteeism can be a costly phenomenon within organisations (Hemp 2004). A Canadian study found only 2% to 3% of people are absent from work for psychological disorders, while 40% of those who stay at work show signs of heightened psychological stress that subsequently interferes with their work (Brun et al. 2003). Brun and Lamarche (2006) estimated that the direct and indirect cost of work stress to a Canadian organisation with 4,000 employees was Can$1,950,000 (or around £1,249,000). Of this amount, 80.3% was associated with absenteeism and 19.7% with presenteeism. This was the equivalent of 54 full-time people annually; and the total direct and indirect costs of work stress amounted to 11,880 days lost.

In the UK, Pathak (2008) estimated the costs to employers of all workplace injuries and work-related ill health in 2005/06 to be £2.9–3.6 billion. This was broken into the cost of sick pay which was £1.6–1.8 billion; compensation and insurance costs of around £1.3 billion; administrative costs of £29–32 million, and recruitment costs of £13 million. The cost of sick pay is the main and primary cost to employers of work-related ill health. Sickness absence in the UK is now at the lowest level compared to the previous 20 years, according to a CBI survey (CBI 2010). This is may be due to the recession and the fear among workers of losing their jobs. So while there may be significant savings to employers in the short term due to reduced costs of sick pay, the costs to the individual and society are likely to increase if employees facing job insecurity and other work stressors develop long-term health problems.

# 5 REDUCING WORK STRESS

A survey of managers and workers' representatives in the EU (European Agency for Safety and Health at Work 2010) found 79 per cent of European managers are concerned by work-related stress, but less than a third of companies have set procedures to deal with it. Management representatives consider it more difficult to tackle psychosocial risks compared with other health and safety issues. There is a clear need for better procedures to manage and reduce work-related stress.

Figure 15: Choosing a target for work stress intervention (adapted from Heaney and Ryn 1990).



There are two main approaches to mitigating stress in the workplace. The first and dominant approach, Stress Management Training, focuses on increasing a person's ability to deal with stress. The second approach focuses on the work environment, seeking to change stress-generating working conditions. Evidence relating to these approaches has been recently reviewed (Semmer 2008) and this section draws on evidence from that report.

A framework for differentiating between the two approaches is illustrated in Figure 15 (Heaney and Ryn 1990). The figure suggests that there can be different work interventions that target the work stressor, reduce exposure to the work stressor or target workplace buffers ("protective" support groups or practices for example). However, most organisations focus on the individual rather than the workplace. Kompier and Cooper (1999) suggest this is often because by targeting the individual, there is no explicit acknowledgement of managerial/organisational responsibility. This approach focuses the "blame" of work stress on employee personality and lifestyle rather than employment factors.

## 5.1. PERSON-FOCUSED INTERVENTIONS

Individual people vary in their stress responses to environmental stressors. People can appraise the same stressful environment differently and react to it in a different way. A number of stress management training interventions have been identified (Murphy 2003). These include:

- relaxation-focused interventions, focusing on breathing and muscle calming activities to release tension;
- meditation techniques on relaxing the mind while remaining completely attentive;
- biofeedback training to recognise muscle and skin reactivity;

- exercise leading to improvements in vitality and mood as well as increased resilience to stress;
- cognitive-behavioural skills training focusing on the specifics of the stress-generating situation, trying to alter its interpretation, and offering support in dealing with it (this may include attempts at eliminating the source of stress such as training in assertiveness, conflict resolution, problem-solving, time management (Quick et al. 1997) or anger management (Gerzina and Drummond 2000); and
- Employee Assistance Programmes for employees who are experiencing work related problems. These offer counselling, advice, and/or referral to specialist therapeutic treatment and support services.

The effects of stress management training have been reviewed by Giga, Noblet et al. (2003), Lamontagne et al. (2007) and Murphy (1996). Furthermore, meta-analyses have been reported by van der Klink et al. (2001). On average, stress management training produces moderate effects although these effects are very diverse and heterogeneous (Semmer 2008). Most studies report individual level outcomes, rather than outcomes at the organisational level (for example absenteeism). When organisational outcomes are assessed, they tend to be negligible (Giga, Noblet et al. 2003; Lamontagne et al. 2007).

## 5.2. WORKPLACE-FOCUSED INTERVENTIONS

Evidence on a number of workplace-focused interventions has been reviewed by Giga, Noblet et al. (2003), Kompier and Cooper (1999); Kompier et al. (2000); Lamontagne et al. (2007); Murphy and Sauter (2004); Parker et al. (1998); Parkes and Sparkes (1998); and Semmer (2003). These interventions can be

grouped into three, not mutually exclusive, approaches, focusing on:

*Task characteristics*
These interventions improve simple and repetitive tasks, such as adding elements that increase responsibility. These elements could involve more employee involvement in planning, quality control, and maintenance through the development of self-directed, semi-autonomous teams.

*Working conditions*
These interventions are about changes in workload and working time.

*Social relationships at work*
These interventions focus on improving social relationships at work by improving social support, conflict management and communication in general. Supervisors can be trained in improving role clarity, giving feedback, carrying out performance appraisal, resolving conflicts etc. (Giga, Cooper et al. 2003; Giga, Noblet et al. 2003; Lamontagne et al. 2007).

Many interventions combine all three approaches. Furthermore, person-focused interventions often are added. There are few studies with methodologically sound designs which make it hard to estimate their effects. Nevertheless, Semmer (2008) concludes that the results tend to be positive overall, but inconsistent. Variables that are immediately targeted by the intervention (e.g. job autonomy, role clarity) are most likely to change as a result of the intervention. However, these effects do not necessarily translate into improved health and wellbeing. Short-term changes in working conditions are more likely to occur than long-term health changes, although some work-related changes may take considerable time to show and, therefore, are not likely to be uncovered by the typical time

frames of evaluation studies (Giga, Noblet et al. 2003). The quality of the implementation of the workplace intervention is important. Lack of sustained management support for workplace interventions is one of the most cited obstacles to successful interventions.

Workplace-focused interventions tend to report results at the organisational level, such as sickness absence. Comprehensive approaches that include both stress management training and organisational interventions tend to yield positive outcomes for individuals as well as organisations (Giga, Noblet et al. 2003; Lamontagne et al. 2007; Semmer 2003). Employee participation, whether formal (e.g. trade unions) or informal (direct involvement of employees), is associated with better quality management of psychosocial risks at work (European Agency for Safety and Health at Work 2010).

## 5.3. WORK STRESS AND THE LAW

The legal aspects of work stress have recently been reviewed (Cox et al. 2006). They point out that there is no legislation in place in the UK specifically on work stress (Pilkington et al 2001). However, under Section 2 of the Health and Safety at Work Act (1974), employers have a duty of care to protect the (physical and psychological) health, safety and welfare of their workforce, so far as is reasonably practicable. Furthermore, under The Management of Health and Safety at Work Regulations (1999), employers are required to make a suitable and sufficient assessment of the risks to health and safety to which staff are exposed while at work, including risks arising from stress in the workplace. The anti-discrimination statutes (such as the Protection from Harassment Act 1997, Disability Discrimination Act 1995 and the Equality Act 2010) are also potentially implicated in some cases of work stress. There are also legal

obligations regarding work stress arising from the common law of contract and of torts.

Despite these protections, it is hard for claims for work stress to succeed, although the wide range of claims under the heading of "work stress" and the lack of detailed evidence on settlements makes it hard to produce statistics. For a case to succeed the employee must be able to prove that:

- The injury was foreseeable. The employer has to be made aware that an employee is experiencing health problems associated with stress at work. Once an employer is aware, they are put on notice for foreseeable risk of subsequent illness. So a case against an employer is unlikely to succeed if they have not been made aware of the employee's work stress.
- A breach occurred in the duty of care. Employers must act reasonably to provide a safe system of work and take reasonable steps to protect their employees from the risks to their safety and health that are reasonably foreseeable. This rule is difficult to establish in work-related stress claims (Barrett 1998; Messham 1995) as the court must examine what constitutes a reasonable response by the employer. This requires weighing up the risks of (psychiatric) harm and injury arising from the work stressors against the cost and practicability of preventing that risk.
- The psychological or physiological injury was caused by that breach. This is probably the hardest to establish. The burden is upon the claimant to prove that the employer's breach of duty either caused the injury or increased the risk of injury. Establishing causation in injury is extremely complex, especially because the aetiology of stress-related illness is multi-factorial (Jamdar and Byford 2003).

There has been some discussion about the extent to which work-related stress should be regulated through legislation

(HSC 1999). However, this discussion was abandoned in favour of a voluntary Approved Code of Practice, which resulted in the Management Standards to guide employers in relation to work stress that have discussed in section 1.2 (Mackay et al 2004; Cousins et al 2004).

GP and other healthcare professionals' statements of "Fitness for Work" (or "fit notes") replaced employee sick notes on 6th April 2010. These fit notes introduced a new option for healthcare professionals: "May be fit for work taking account of the following advice". The notes provide space for comments by the GP or other clinicians to help with the employee's return to work where they could suggest things such as altered hours or avoiding certain activities that could help their return to work (http://www.dwp.gov.uk/docs/fitnote-gp-guide.pdf). In one of the Department of Work and Pensions case studies, a fit note for an employee with work stress could contain suggestions such as for the employee to avoid customer-facing duties; and also to consider creating a support network at work. However it is possible that healthcare professionals may not feel confident in suggesting such specific advice without adequate guidance and training on work stress interventions.

The fit note is not legally binding and cannot compel employers to implement measures. Crucially, any advice on a fit note is advice from the healthcare professional to the employee, not to the employer. Changes to an employee's role or hours will have to be agreed between employers and employees and cannot be imposed by the GP or clinician. However, employers may be vulnerable to legal claims if they do not respond promptly and fully to the suggestions contained within the note (Proactive 2010) as it may close off arguments that the negative health consequences of work arrangements were unforeseeable. It remains to be seen whether the courts regard non-binding advice on a fit note by a healthcare professional as a trigger for employers to take action, as the legal status of fit notes is yet to

be tested before employment tribunals and courts.

Under the European Framework Directive 89/391 on health and safety at work, all employers have a legal obligation to protect the occupational safety and health of workers; this includes problems of work-related stress insofar as they entail a risk to health and safety. Many countries already have legislation concerning the organisation of work and working conditions. However, few explicitly mention work-related stress. For example, The Norwegian Working Environment Act does not make any particular reference to work-related stress, but it makes a number of provisions on how the working place and the working environment should be organized. In Belgium, the Royal Decree of May 2007 obliges every employer to analyse and identify all situations which might entail a psychosocial burden. Aspects such as work content, working conditions and work relationships must thereby be taken into consideration. However, despite such legislation, in practice few companies have implemented stress diagnosis practices (http://www.eurofound.europa.eu/ewco/2010/01/BE1001019I.htm).

Figure 11 showed that workers in some European countries have lower work stressors in terms of low job demands and high job control (such as the Netherlands, Luxembourg and Belgium), and also in terms of having high job control and high job demands (such as Norway, Denmark and Finland). However, it is not clear whether legislation on work stress and/or enforcement of this legislation explain why workers in these countries have lower levels of work stressors.

Against the background of several suicides of workers in the French car industry, there has been a multi-industry agreement on stress at work since 2008 between the five main trade union confederations in France and the three representative employer organisations. The French multi-industry agreement on stress at work now adds more detail to the 2004 European framework agreement on work-related stress.

# 6 CONCLUDING REMARKS

## 6.1. FUTURE PRIORITY AREAS

Work stress will probably increase as a result of the continuing effects of the 2008–09 recession. Trends in work stressors and the health and economic consequences of work stress need to be closely monitored. While there is some evidence from the CIPD employee outlook surveys on the effects of the recession on work stress, the latest data from Health and Safety Executive's 2010 Psychosocial Working Conditions survey could be analysed to verify if there has been an increase in the levels of work stressors reported by employees. Furthermore, any changes in the position of British workers in relation to other European countries should be analysed from the latest (2010) European Working Conditions Survey.

Budget cuts in government spending as a result of the recession will increase job losses in the short run, and work stressors over a longer period. Public sector workers are being told to anticipate significant job losses in their sector. Evidence from this report suggests that public sector workers have already experienced the steepest increase in work stressors during the last recession. This group could therefore be especially vulnerable to cuts in government spending. Any adverse changes to their psychosocial working conditions should be monitored.

This report has shown that the health consequences of stress at work range from mental health to cardiovascular and workplace injuries, all of which result in sickness absence. These health effects of work stress have economic costs, for individuals, employers and society. With work stress increasing as a result of the recession, the economic costs and health effects of work stress also need to be monitored.

There is little evidence that the management standards on work stress (and related agreed code of practice) introduced by the Health and Safety Executive in 2004 has reduced work stressors so far. Given the tougher economic environment after the 2008–09 recession, it is possible that these management standards may not be widely used or may become even less effective at reducing work stress. The appropriateness of relying on the Management Standards approach to reduce work stress may need to be re-evaluated in the context of increasing work stress after the recession. The contribution of specific legislation on work stress and/or enforcement of this legislation to lower work stress in some European countries also needs to be investigated.

The introduction of "fit notes" may require additional training for health care professionals on suggesting appropriate work stress interventions for patients reporting work stress. The potential use of such fit notes in legal claims on work stress may act as a trigger for employers to take more action on reducing stress in the workplace.

The difficulty in establishing legal claims in relation to work stress may be partly due to the lack of causal evidence linking work stress to specific health problems. Given the multifactorial aetiology of most chronic health problems, it is hard for any claimant to argue that their specific work stressor led to their health problem independently of any other risk factor. Better causal evidence that links specific work stressors to specific health problems needs to be developed.

## 6.2. OVERALL CONCLUSIONS

The 2008–09 recession has already resulted in increased levels of psychosocial work stressors in Britain. There has been an increase in job insecurity, work intensity and inter-personal

conflict at work. Job insecurity among public sector workers has doubled since 2009. Public sector workers also report a greater increase in (and higher levels of) work intensity, inter-personal work conflict, bullying by managers and work hours compared to private sector workers since 2009. With cuts in government spending in the Emergency Budget 2010 directly affecting public sector employment, levels of work stress could increase even more among public sector workers. Any estimated cost savings from budget cuts arising from the recession need to be balanced against the economic costs of work stress.

Work stress has been increasing in Britain since 1992. The increase in work stress is particularly marked for women. Furthermore, there was an increase of around 4–6 percentage points in most measures of work stressors in the one-year period from spring 2009 to spring 2010. In comparison, the increase in job strain from 1992 to 2006 was around 0.5–1.0% per year. This suggests that work stressors in Britain have increased markedly since 2009.

Work stressors are associated with a wide range of health outcomes, including depression and anxiety disorders, suicide, workplace injuries and accidents, and cardiovascular risk. This results in sickness absence for employees with work stress. However, the recession could have ambiguous effects on sickness absence. During recessions, people may become afraid of losing their jobs and so may become reluctant to take sickness absence leave even when they are ill. Sickness absence rates have decreased since the last recession. Recessions could increase the phenomenon of presenteeism. If employees who are ill are not able to rest and recover, this will be costly to their health in the long run, which in turn will have economic costs for themselves, their employers and society.

The economic costs of work stress to society have been estimated to lie between 0.5% and 1.2% of UK GDP. The costs to employers are much smaller than the costs to individuals

and to society. The cost of sick pay is the main and primary cost to employers of work-related ill health. However, during recessions, sickness absence may fall and presenteeism could increase despite an increase in work stress. So while there may be significant savings to employers in the short term due to reduced costs of sick pay, the costs to the individual and society are likely to increase if presenteeism increases and employees develop long-term health problems.

There is no legislation in the UK specifically on work stress. There is a voluntary approved code of practice (the Health and Safety Management Standards) that is meant to guide employers in matters of work stress. Since the Management Standards came into being in 2004, there has been little decline in work stressors in Britain, and some evidence that work stressors have actually increased since 2009.

It is difficult for legal claims in relation to work stress claims succeed, partly because courts may be reluctant to attribute the cause of someone's psychological or physical injury to work-related factors. The introduction of "fit notes" to replace "sick notes" from healthcare professionals may increase the potential success of work stress claims if they are used in the legal process. These fit notes may also act as a trigger for employers to take more action on reducing stress in the workplace. However, these notes would require additional training for healthcare professionals on suggesting appropriate work stress interventions for patients with work stress.

Work stress has increased since the last recession. The burden of the recession on work stress will not only fall on current workers, but will also be experienced by future workers unless appropriate actions to measure, monitor and mitigate against work stress are introduced.

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# ABOUT THE AUTHOR AND THE MEMBERS OF THE STEERING GROUP

**Tarani Chandola** is Professor of Medical Sociology at the University of Manchester. He joined the School of Social Sciences in April 2010 and was formerly at the UCL Research Department of Epidemiology and Public Health. His research is primarily on the social determinants of health, focusing on health inequalities and psychosocial factors, and the analysis of longitudinal cohort studies. He is the meetings secretary of the Social Statistics committee at the Royal Statistical Society, and a co-director of Methods@Manchester. His work is supported by an ESRC Pathfinders project on urbanisation and spatial inequalities in health, the ESRC International Centre for Lifecourse Studies in Society and Health, and the MRC funded Whitehall II study.

**Duncan Gallie** has been Official Fellow at Nuffield College, Oxford since 1985 and Professor of Sociology since 1996. He has been Vice President of the British Academy since 2004 having previously been a Fellow and Council Member. His research co-ordination includes the ESRC Social Change and Economic Life Initiative (1985-1990); Employment in Britain Survey (1991-1995); DGV Processes of Detachment from the Labour Market (1992-1994); DGXII Employment Conditions, Labour Market Insecurity and Work Motivation (Britain, Bulgaria, Czech Republic and Slovakia) (1994-1996); DGXII Employment Precarity, Unemployment and Social Exclusion (8 country research programme) (1996-1999) and DG Research Cluster 'Unemployment, Work and Welfare' (2000-2002). He has served as a Member of the Advisory Committee of the ESRC Research Centre on Micro-Social Change (MISOC); the ESRC's Future of Work Initiative and was a Member of

the EU's Advisory Group for the Sixth Framework Programme on 'Social Sciences and Humanities in the European Research Area'.

**Paul Edwards** is Professor of Industrial Relations at Warwick Business School and associate editor of 'Human Relations'. He was formerly the Deputy Director and Director of IRRU and editor of 'Work, Employment and Society'. He was elected a Fellow of the British Academy 1998 and Academician of the Academy of Social Sciences 2008. Paul was Chair of the British Academy's Social Science Group 2006-10. He has conducted research for bodies including the Department of Trade and Industry and the Chartered Institute of Personnel and Development. He was a Senior Fellow, Advanced Institute of Management Research 2004-7. His research interests include new forms of work organisation and their implications for employees and for efficiency; comparative workplace employee relations; employee relations in small firms, including the effects of employment legislation; and personnel practice in MNCs.

**Kathy Parkes** is Reader in Applied Psychology at the University of Oxford, and an adjunct Professor in the School of Psychology, University of Western Australia (UWA). Her research is primarily concerned with work-related stress, and includes studies carried out with healthcare professionals, teachers and civil servants. Most recently, she has been responsible for a wide-ranging programme of human factors and psychosocial research in the UK oil and gas industry. The research, funded by the UK Health and Safety Executive, has focused mainly on stress and health among personnel working on North Sea installations. Shift rotation, work/leave schedules, and working hours more generally, are major areas of current interest. Using experimental methods, the research has addressed specific issues associated with day/night shift rotation in the

offshore environment, including effects on sleep, cognitive performance, fatigue and subjective alertness. This approach has been complemented by large-scale survey studies, in both offshore and onshore settings, in which psychosocial work conditions and objective work factors have been assessed in relation to a range of health and safety outcomes. While at UWA, Kathy has become interested in psychosocial aspects of shift work in remote mines, in addition to developing contacts with the WA oil/gas industry.

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