

# Work-related stress: a brief review

S Holmes

*Susan Holmes, BSc, PhD, SRN, FRSH, CMS, Professor of Nursing and Head of Centre, Centre for Nursing Research and Practice Development, Faculty of Health, Canterbury Christ Church University College, Canterbury, Kent CT1 1QU, England*

*Received 23 February 2001, revised and accepted 3 September 2001*

## Key words

**Coping with stress; health and safety at work; individual health; occupational stress; organisational health; work-related stress**

## Abstract

Work-related stress is a serious and growing problem in the UK and as such, is regarded as a significant health and safety issue. It is vital that this issue is addressed and that action is taken to address the problems that this may create both for individuals and the organisations in which individuals work.

This paper reviews the concept of work-related stress showing how its deleterious impact may exert both direct and indirect effects on the workforce thus affecting both individual and organisational effectiveness. It also shows how individual and organisational factors may contribute to the development of occupational stress. However, since not all the stress which affects people at work is caused by the workplace, the home/work interface is also considered. The paper concludes by considering how work-related stress may be managed.

## Introduction

Both the Health and Safety Commission (HSC) (2000) and the European Agency for Safety and Health at Work (EASHW) (2000) believe that work-related stress is a serious problem in the UK workforce and, as such, a significant health and safety issue. Moreover, it is a growing problem which warrants serious consideration (HSC, 2000). Such stress has been the subject of extensive study with the effect that some occupations, such as police work, teaching and nursing, are considered to be particularly stressful (Arnold *et al*, 1995). This being so it is important that this issue is confronted and that action is taken to address the problems this may create, not only for individuals but also for the organisations in which individuals work.

## Work-related stress

Although a degree of stress may clearly be beneficial in providing stimulation and creating energy, thus increasing both productivity and efficiency and challenging both individuals and teams to give their best (Aveline, 1995; Cox, 1993), it is believed that this is too often used to justify poor or inappropriate management practices (EASHW, 2000). While challenge, stimulation and deadlines are necessary, stress is not, and if the pressure of work is too heavy or is prolonged - and the individual perceives him/herself to be unable to cope successfully - the physical and mental reactions, collectively known as stress, will arise. Such reactions are implicated in a wide variety of illnesses and behaviours (Cox, 1993; Payne and Firth-Couzens, 1987), such as coronary heart disease (CHD), mental illness and some forms of cancer; various minor conditions, ranging from skin rashes to asthma, can also occur (Table 1). Short-term behavioural responses impact not only on the affected individual but also on their working colleagues and include quick temper, loss of concern for others, yelling, crying and becoming 'emotionally distanced' (Duldt, 1981). It is not, therefore, surprising that a positive relationship can be demonstrated between work-related stress and subjective perceptions of mental distress (Tyler and Cushway, 1995) and also with a high incidence of burnout and emotional disorders (Arnold *et al*, 1995). Health-compromising behaviours, such as heavy smoking, poor diet, lack of exercise and excessive alcohol consumption, may also be used in attempts to manage stress causing still further damage to general health.

Excessive stress is, therefore, destructive leading to a deterioration in performance (Cox, 1993) as well as job dissatisfaction, accidents, unsafe working practices and high absenteeism (Cooper, 1986; Smith and Sulsky, 1995). It is also associated with mood changes causing feelings of tension, anxiety, fatigue and depression (Cox and Ferguson, 1991; Stone *et al*, 1993). Certain-

ly stress is depressing, demoralising and demotivating. Affected individuals often display decreased energy associated with an inability to keep up with the pace of work; they often perceive that great personal expenditure is required at work for very little personal gain or reward (Farrington, 1997). Self-esteem may be significantly decreased accompanied by feelings of both failure and hopelessness. The personal cost of work-related stress is, therefore, high and may incorporate significant grief and suffering and, at times, premature death (Levi, 1996); it may significantly detract from general quality of life and well-being (EASHW, 2000). Such effects, in turn, markedly influence the way individuals feel, think and behave resulting in cynicism, negativism and self-depletion; these are often worsened by the fact that few people are prepared to admit suffering from stress or to seek help from it. As shown above, further harm may result from the ways in which individuals try to reduce their symptoms (e.g. through alcohol consumption and smoking).

## Organisational effects of stress

While the effects of stress on individuals may be significant, and render them unfit for work and decrease their job satisfaction, the effects on employers may be equally important. Indeed, it has been estimated that stress and stress-related illness result in the loss of at least 180 million working days per year costing UK industry - and British taxpayers - more than £4 billion each year (Cooper and Cartwright, 1996; Jones *et al.*, 1998). The financial costs for individual employers may be equally significant, necessitating payment of sickness benefit compounded by early retirement and/or compensation payments and the costs of replacing experienced staff. Furthermore, stress affecting one member of staff increases the demands on colleagues thereby increasing their workload and, in turn, affecting their morale and job satisfaction (Matrunola, 1996). This, in turn, enhances their susceptibility to stress and further potentiates its organisational impact.

The Health and Safety Executive (HSE) (1995) lists a number of adverse effects attributable to work-related stress (Table 1) including reduced productivity, deterioration in relationships (not only between colleagues but also with clients and/or management), loss of motivation, low morale,

poor time-keeping and high sickness-absence. The latter have been described as 'escape strategies' (Cox, 1993) which, though they may help individuals to cope, are both personally and professionally unacceptable. Unscheduled absenteeism is disruptive due to its unexpected and unpredictable nature and its negative impact on both morale and costs. Others, although under stress, may continue to work but perform badly, a situation described as 'sickness-presence' (Goldman, 1994), which again affects other employees necessitating that they 'compensate' for the affected person's poor performance. The effects of stress often produce a rigid approach to problem solving due to an inability to identify alternative ways of functioning (Farrington, 1997) and further exacerbate problems in the working environment. Job dissatisfaction, whatever its cause, is clearly detrimental to any organisation's aims and objectives making it difficult to meet organisational and/or departmental goals.

## Causes of work-related stress

Although an employee's perception of the demands presented by an occupational setting is generally more predictive of work-related stress than the more objective features (Cox, 1993), research has identified many contributors to occupational stress. These can be summarised as (Health and Safety Authority Ireland, 2000; MIND, 1992):

- Prolonged or increasing pressure to perform and maintain the quality of work
- Lack of personal control and a sense of powerlessness over the demands being made
- Conflicting demands which cannot be easily resolved
- A continuous threat of violent or aggressive behaviours
- Ill-defined work roles
- Poor working relationships and/or communication
- Job insecurity and/or fear of redundancy
- Increased workload due to reductions in staff
- Excessive working hours

Work situations may also be experienced as stressful when they are believed to involve demands that are not well-matched to individual knowledge, skills or needs, especially when individuals have little control and receive little support in their work (EASHW, 2000). Threats to personal freedom, autonomy and identity may also be perceived (Hingley and Cooper, 1986).

Various aspects of an organisation may contribute to the development of stress including size, structure, cumbersome and arbitrary procedures, and role-related issues; many are influenced by management behaviours and/or supervisory styles which may impact substantially on the emotional well-being of workers (Landy, 1992). Since most people work not only for income but also

Table 1

### Adverse effects of stress in the workplace

Individual	Asthma	Anxiety/depression
	Back pain	Behavioural change
	Cardiovascular disease	Disrupted sleeping patterns
	Dizziness	Headache/earache
	Mood changes	Mouth/gum disorders
	Poor mental health	Rashes/itching
	Reduced quality of life and general well-being	Shortness of breath
Organisational	Decreased staff morale	Difficulty in meeting organisational/departmental goals
	Increased costs	Increased sickness-absence
	Loss of motivation amongst staff	Poor staff performance
	Poor time-keeping	Poor working relationships
	Reduced productivity	Unsafe working practices

for stimulation, satisfaction and social contact, the management style employed must be such as to retain a productive and interested workforce and managers/supervisors must demonstrate interest in their workforce and its well-being. Indeed, considerate behaviour from superiors is known to significantly reduce feelings of job-associated pressures (Buck, 1972).

Role-related issues, particularly role ambiguity and conflict (Ingersoll *et al*, 1999), may also be problematic and exacerbated by, for example, role overload or insufficiency and responsibility for others. Ambiguity arises when workers are unclear about how they 'fit' into an organisation; this is manifested by confusion about objectives, lack of clarity about expectations and uncertainty regarding the scope and responsibilities of individual roles. Affected individuals often experience low job satisfaction and great job-related tension combined with feelings of futility and reduced self-confidence (French and Caplan, 1973; Margolis *et al*, 1974). Role conflict is experienced when staff are required to perform in roles that conflict with their personal values or when they play a number of roles that are incompatible with one another. Such factors clearly enhance stress-related disorders (Cooper and Smith, 1986).

The failure to make full use of individual abilities and skills similarly leads to feelings of stress (Brook, 1973) associated with low job satisfaction and psychological strain coupled with low commitment to the organisation (Bhalla *et al*, 1991); it also deprives the organisation of those abilities and skills. This clearly shows that stress does not affect only 'high flyers' but is equally likely to affect those involved in repetitive or monotonous work, those whose skills are underused and those who have too little to do (DoH, 1994). Failure to make the best use of individual skills is, therefore, of great organisational significance and also potentiates harm to the individual(s) concerned. Similarly, a lack of opportunities for career development and training may be a source of stress related firstly to a lack of job security and/or fear of obsolescence and, secondly, under- or over-promotion. Such factors are potential sources of stress and contribute to poor physical health (Kasl and Cobb, 1982).

Of similar importance are the issues of

decision latitude and control which are reflected in the extent to which employees feel able to participate in decision-making about their work. Decision latitude is defined as a "*worker's potential control over his/her tasks and conduct during the working day*" (Karasek, 1979) and it is suggested that a greater degree of control reduces stress; certainly low control at work (low decision latitude) has repeatedly been associated with the development of stress together with anxiety and depression, apathy and exhaustion, and low self-esteem (Karasek and Theorell, 1990; Terry and Jimmieson, 1999). Moreover, it is suggested that where there are greater opportunities for participating in decision-making, satisfaction is greater and self-esteem higher while non-participation increases work-related stress and decreases overall physical health (Spector, 1986). The extent to which staff are able to participate in decision-making therefore requires consideration in any working environment.

Good interpersonal relationships are also central to both individual and organisational health (Cooper, 1981); relationships with colleagues, superiors and subordinates are all important. Low interpersonal support at work is clearly associated with high anxiety, emotional exhaustion, job tension and low job satisfaction (Warr, 1992), while social support can offset the adverse effects of poor working conditions reducing the associated strain, mitigating perceived stressors and moderating the stressor-strain relationship (Viswesvaran *et al*, 1999).

Many of the factors identified above may interact further exacerbating the problems experienced by individuals; many are aggravated when that individual also carries responsibility for others. For example, Colligan *et al* (1977) suggested that occupations involving continued contact and/or responsibility for people are vulnerable to mental distress while Leiter (1991) suggests that, in the caring professions at least, responsibility for others often results in emotional exhaustion and the depersonalisation of relationships with patients and/or clients.

### Work and the context of work

The context in which work takes place is also important since it may be a significant contributor to occupational stress reflecting aspects such as low value of work, low use of skills, lack of learning opportunities, uncertainty, conflicting demands and insuf-

ficient resources (Kasl, 1992). Such factors, in part at least, reflect issues previously described. For example, uncertainty in work may relate to role ambiguity, job insecurity and/or fear of redundancy, particularly if this extends over a prolonged period (Lamport-Mitchell, 1992; Warr, 1992).

It is similarly recognised that workload per se may be problematic; both work overload and work underload may contribute to the development of work-related stress (Jones *et al*, 1998; Szabo *et al*, 1983). The qualitative and quantitative aspects of the workload have been investigated (French and Caplan, 1973; French *et al*, 1974) thus distinguishing between the amount of work to be done and the difficulty of that work. It is clearly possible for work to involve both quantitative overload and qualitative underload (or vice versa) thus leading to overwork but a concurrent underuse of individual skills. This means that the objective workload cannot be viewed in isolation; the perceived demand and ability, in relation to individual capacity and personality, must also be considered if stress is to be avoided.

While, in some cases, individuals may compensate for work overload by working longer hours and, in others, may feel the need for continuous peak level performance to safeguard their jobs, this may itself cause further problems. There is, for example, an association between long working hours and death from CHD (Bosma *et al*, 1997) and other health problems (EFILWC, 1996). Sustained working is also associated with sleep loss and perceived exertion or fatigue leading to a decline in performance due to disruption of both circadian rhythms and sleeping patterns (Ryman *et al*, 1989). Night shift work is believed to be particularly stressful, perhaps damaging immunocompetence (Kobayashi *et al*, 1999) and increasing the risk of cardiovascular disease by as much as 40% (Boggild and Knutsson, 1999), particularly in those who have difficulty in adapting to such forms of working (Harrington, 1978; Monk and Tepas, 1985).

Control over working schedules is, therefore, important in both job design and the organisation of work and may benefit both individual employees and the organisation as a whole. This is supported by a survey of working environments in 1991-1992 which revealed that, in the European Community and the former East Germany, organisa-

tional problems were a significant cause for concern. Of particular importance are a "lack of influence over one's work" (affecting 35-40% of workers) and long working hours (6% men and 7% women reported working more than 50 hours per week) (EFILWC, 1992); more recent work has revealed similar findings (EFILWC, 1996; EFILWC, 1997). Similarly, the 1990 survey of the UK labour force revealed that over 50% of respondents believed that their condition was entirely due to their working conditions (Goldman, 1994). Such factors are important since, for example, those working long hours, or undertaking significant periods of overtime, will spend less time in social relationships thus reducing the opportunities for social support as a buffer for work-related stress. It must, however, be acknowledged that some people will regard work and long working hours as a means of 'escape' from the pressures of home and family and, indeed, unsatisfactory personal relationships (Sutherland and Cooper, 1990). This, in turn, demonstrates the way that an employee's personal life may significantly impact on performance and efficiency at work; they must, therefore, be considered when addressing occupational stress.

## Home/work interface

The term 'home/work interface' describes not only family/domestic life but also broader dimensions of life outside work and, as not all stress affecting people at work is caused by the workplace, this must not be overlooked. Personal or family demands can influence an individual at work in the same way that stress at work can negatively affect family/personal life. Thus issues around the family, financial difficulties and conflicting personal and organisational beliefs and values may all increase the strain on individuals. Conversely, social support, from family and friends, may reduce the impact of organisational stressors in the same way that good interpersonal relationships at work may help to balance and attenuate stress by 'buffering' the strains and pressures inherent in some working environments (Warr, 1992). Some may put in excessively long hours in an attempt to achieve unrealistic targets, or seek excessive overtime to 'safeguard' their jobs. This not only deprives them of social support but also prevents them from fulfilling important roles within the family or with friends leaving little or no time for diver-

sional activity (Meusz, 1995). Those working with non-supportive or inconsiderate superiors or colleagues are equally likely to experience strain or stress. It must, however, be recognised that interpersonal relations may be impaired by the presence of stress causing, for example, irritability, and in turn, reducing the availability of social support thus creating a vicious cycle from which it can be difficult to escape.

## Dealing with stress

This discussion reveals that stress causes many problems for both individuals and organisations. The effects on individuals may be physical, psychological or behavioural and represent the outcome(s) of exposure to a wide range of possible stressors. From an organisational perspective, stress has a real financial cost in terms of decreased productivity, increased sickness-absence and, increasingly, the possibility of litigation (Cooper and Earnshaw, 1998). Indeed, in 1994, UK trade unions secured £335 million in legal damages for members who were injured or who suffered ill health, including stress, in the workplace (Spooner, 1995). Preventing and/or managing stress may, therefore, pay dividends not only in financial terms but also in terms of both individual and organisational health.

The response to stress is, however, mediated by various factors that make individuals more or less vulnerable to its effects. Thus, in the same way that stress and the response to it are multifaceted, so its management may take many forms, some focusing on the individual and others on work and/or the working environment; indeed there is no single approach to either its prevention or its management.

Murphy (1984) and others including Kompier *et al* (1998), have found that most stress management interventions are individually focused. However, Murphy (1984), in his review of studies relating to personal stress management, concluded that, although approaches such as meditation, relaxation, biofeedback and cognitive-behavioural training may be beneficial for individuals, such benefits are not sustained perhaps because they are designed to develop effective coping strategies rather than to eliminate the source of stress. Thus, many individual stress management programmes are designed to change the worker rather than work or the working environment.

Indeed, studies focusing on organisational change are significantly less common perhaps because "*changing the nature of the job or the organisation may be considerably more daunting and complex*" (Briner, 1997), even though many consider social and organisational factors (e.g. job design and management style) as being more appropriate targets for intervention (EASHW, 2000; TUC, 1988). In any case, focusing only on the individual, although it may help short-term coping (Gournay, 1995), is unlikely to be successful in the long-term.

There is, indeed, a legal imperative for all organisations to pay attention to occupational stress, as they should towards all aspects of the health and safety of their employees. The Health and Safety at Work Act (1974) and the Management of Health and Safety at Work Regulations (1992) provide the framework for managing health and safety in the workplace placing a statutory duty on employers to ensure the health, safety and welfare of their employees (and others) at work. Thus, under such legislation, as well as common law, employers have a duty of care to their workforce. It is, therefore, interesting that employers usually respond to employee stress by assisting individuals to cope effectively thus placing the onus on the employee rather than seeking to eliminate its cause. This may be important as Bloom (1996) warns that an over-reliance on personal stress management techniques may actually increase the legal liability of organisations since this admits to the problem while demonstrating no attempt to correct it.

Within the above legislation all employers are required to "*make a suitable and sufficient assessment of the risks to the health and safety of employees to which they are exposed while they are at work*" (Management of Health and Safety at Work Regulations, 1992). They are obliged to assess the nature and scale of risks to health and take the necessary action to control them. This includes the risk of stress which, as one of the most common threats to employee safety, must be controlled under the statutory duties described above (TUC, 1988); furthermore, the scientific literature clearly suggests that this may benefit both individuals and organisations (EASHW, 2000).

Thus, in environments where employees regularly report feelings of stress and/or in

which levels of sickness-absence are high, consideration must be given to the possibility that work-related factors are contributing to the occurrence of stress. Many of the possible contributory factors have been identified here including prolonged or increasing pressure, role-related issues (e.g. ambiguity, conflict), low job satisfaction and low decision latitude and control. Effective management should permit workload issues to be identified and will, in turn, enable a risk assessment to be carried out following which appropriate interventions can be instigated at the organisational level supported by, where necessary, personal stress management programmes.

However, work-related health hazards may not be immediately obvious and, indeed, some are almost invisible. Staffing cuts, increased workload and long working hours are common in the UK and are rarely acknowledged as contributors to the development of stress. As financial stringencies increase and new, often more hierarchical, systems are imposed, the tendency for poor managerial practices, communication difficulties and poor interpersonal relationships are enhanced. The risks to health are, therefore, significant. While it is tempting to blame individuals for their inability to cope, organisations have a legal responsibility and a duty of care to their employees and must take steps both to prevent and to manage work-related stress. This requires action at both the organisational and the individual level if the problem is to be overcome.

## References

ARNOLD J, COOPER C L and ROBERTSON I T (1995). Work Psychology: Understanding Human Behaviour in the Work Place. Second edition. London: Pitman

AVELINE M O (1995). Doing your job well: occupational stress and performance in mental health workers. *Current Opinion Psych*, 8(2), 73-75

BHALLA S, JONES B and FLYNN D M (1991). Role stress among Canadian white-collar workers. *Work Stress*, 5, 289-299

BLOOM V (1996). Stress auditing: counselling is not enough. *Occ Health*, 48(7), 252-253

BOGGILD H and KNUTSSON A (1999). Shift work, risk factors and cardiovascular disease. *Scand J Work Environ Health*, 25(2), 85-99

BOSMA H, MARMOT M, HEMINGWAY H, NICHOLSON A C, BRUNNER E and STANSFIELD S A (1997). Low job control and risk of coronary heart disease in Whitehall II (prospective cohort) study. *BMJ*, 314, 558-565

BRINER R (1997). Improving stress assessment: toward an evidence-based approach to organiza-

tional stress interventions. *J Psychosom Res*, 43(1), 61-71

BROOK A (1973). Mental stress at work. *Practitioner*, 210, 500-506

BUCK V (1972). Working Under Pressure. London: Staples Press

COLLIGAN M J, SMITH M J and HURRELL J J Jr (1977). Occupational incidence rates of mental health disorders. *J Human Stress*, 3, 34-39

COOPER C L (1981). Executive Families Under Stress. Englewood Cliffs, New Jersey: Prentice Hall

COOPER C L (1986). Job distress: recent research and the emerging role of the clinical occupational psychologist. *Bull Br Psychol Soc*, 39, 325-331

COOPER C L and CARTWRIGHT S (1996). Mental Health and Stress in the Workplace: A Guide for Employers. London: HMSO

COOPER C L and EARNSHAW J (1998). The price of stress. *Nursing Standard*, 12(25), 16

COOPER C L and SMITH M J (1986). Job Stress and Blue Collar Work. Chichester: Wiley and Sons

COX T (1993). Stress Research and Stress Management: Putting Theory to Work. HSE Contract Research Report 61/1993. London: HMSO

COX T and FERGUSON F (1991). Individual Differences, Stress and Coping. In: Personality and Stress: Individual Differences in the Stress Process. (Edited by Cooper C L and Payne R.) Chichester: John Wiley and Sons

DOH (DEPARTMENT OF HEALTH) (1994). Mental Illness: A Guide to Mental Health in the Workplace. London: HMSO

DULDT B W (1981). Anger: an occupational hazard for nurses. *Nurs Outlook*, 29(9), 510-515

EASHW (EUROPEAN AGENCY FOR SAFETY AND HEALTH AT WORK) (2000). Research on Work-related Stress. Bilbao: EASHW. Available online at: <http://agency.osha.eu.int/publications/reports/stress/full.php3>

EFILWC (EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS) (1992). European Survey on the Work Environment. Dublin: European Foundation for the Improvement of Living and Working Conditions

EFILWC (EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS) (1996). Second European Survey on Working Conditions in the European Union. Dublin: European Foundation for the Improvement of Living and Working Conditions

EFILWC (EUROPEAN FOUNDATION FOR THE IMPROVEMENT OF LIVING AND WORKING CONDITIONS) (1997). European Working Environment in Figures. Dublin: European Foundation for the Improvement of Living and Working Conditions

FARRINGTON A (1997). Strategies for reducing stress and burnout in nursing. *Br J Nursing*, 6(1), 44-50

FRENCH J R P and CAPLAN R D (1973). Organisational Stress and Individual Stress. In: The Failure of Success. (Edited by Marrow A J.) New York: Amacon

FRENCH J R P, RODGERS W and COBB S (1974). Adjustment as Person-Environment Fit. In: Coping and Adaptation. (Edited by Coehle G V and Hamburg D A.) New York: Basic Books

GOLDMAN L (1994). Stress and the law. *Occ Health*, 44(3), 86-87

GOURNAY K (1995). Stress Management: A Guide to Coping With Stress. Leatherhead: Asset Books Ltd

HARRINGTON J M (1978). Shift Work and Health: A Critical Review of the Literature. London: HMSO

HEALTH AND SAFETY AT WORK ACT (1974). Statutory Instrument Number 2127. London: The Stationery Office

HEALTH AND SAFETY EXECUTIVE (1995). Stress at Work - A Guide for Employers, HS(6)116. London: HSE Books

HEALTH AND SAFETY AUTHORITY IRELAND (2000). Workplace Stress: Cause, Effects, Control. Available online at <http://www.hsa.ie/stress.htm> (accessed 2 December 2001)

HINGLEY P and COOPER C L (1986). Stress and the Nurse Manager. London: John Wiley

HSC (HEALTH AND SAFETY COMMISSION) (2000). Health and Safety Commission website at [www.healthandsafety.co.uk](http://www.healthandsafety.co.uk)

INGERSOLL G L, COOK J A, FOGEL S, APPELGATE M and FRANK B (1999). The effect of patient-focused redesign on midlevel nurse managers' role responsibilities and work environment. *J Nurs Admin*, 29(5), 21-27

JONES J R, HODGSON J T, CLEGG T A and ELLIOT R G (1998). Self-reported Work-related Illness in 1999. Results from a Household Survey. Sudbury: HSE Books

KARASEK R A (1979). Job demands, job decision latitude and mental strain: implications for job redesign. *Admin Sci Quart*, 24, 285-308

KARASEK R and THEORELL T (1990). Healthy Work: Stress, Productivity and the Reconstruction of Working Life. New York: Basic Books

KASL S V (1992). Surveillance of Psychological Disorders in the Workplace. In: Work and Well-being: An Agenda for the 1990s. (Edited by Keita G P and Sauter S L.) Washington DC: American Psychological Association

KASL S V and COBB S (1982). Variability of Stress Effects Among Men Experiencing Job Loss. In: Handbook of Stress: Theoretical and Clinical Aspects. (Edited by Goldberger L and Breznitz S.) New York: Free Press

KOBAYASHI F, FURLI H, AKAMETSU Y, WATANABE T and HORIBE H (1999). Changes in psychophysiological functions during night shift in nurses - influence of changing from a full-day to a half-day work shift before night duty. *Int Arch Occup Environ Health*, 69(2), 83-90

KOMPIER M A J, GEURTZ S A E, GRUNDEMAN R W M, VINK P and SMULDERS P G W (1998). Cases in stress prevention: the success of a participative and stepwise approach. *Stress Med*, 14, 155-168

LAMPORT-MITCHELL M (1992). Recession and workforce anxiety. *Occ Health*, 44(3), 86-87

- LANDY F J (1992). Work Design and Stress. In: Work and Well-being: An Agenda for the 1990s. (Edited by Keita G P and Sauter S L.) Washington DC: American Psychological Association
- LEITER M (1991). The dream denied: professional burnout and the constraints of human service organizations. *Canadian Psychol*, 16, 652-661
- LEVI L (1996). A Model for Assessing the Cost of Stressors at National Level. Dublin: European Foundation for the Improvement of Living and Working Conditions
- MANAGEMENT OF HEALTH AND SAFETY AT WORK REGULATIONS (1992). Statutory Instrument Number 2051. London: The Stationery Office
- MARGOLIS B L, KROES W H and QUINN R P (1974). Job stress: an unlisted occupational hazard. *J Occup Med*, 16(10), 659-661
- MATRUNOLA P (1996). Is there a relationship between job satisfaction and absenteeism? *J Adv Nursing*, 23(4), 827-834
- MEUSZ C (1995). Occupational health: dealing with stress. *Nursing Standard*, 10(2), 27-30
- MIND (1992). Mind in Manchester. Available online at <http://www.mind-in-manchester.org.uk> (click on 'Understanding' and then 'Stress') (accessed 2 December 2001)
- MONK T H and TEPAS D (1985). Shift Work. In: Job Stress and Blue Collar Work. (Edited by Cooper C L and Smith M J.) Chichester: John Wiley and Sons
- MURPHY L R (1984). Occupational stress management: a review and appraisal. *J Occup Psychol*, 57, 1-15
- PAYNE R and FIRTH-COUZENS S J (1987). Stress in Health Professionals. New York: John Wiley
- RYMAN D H, NAITOH P and ENGLUND C E (1989). Perceived exertion under conditions of sustained work and sleep loss. *Work Stress*, 3, 5-68
- SMITH C S and SULSKY L M (1995). An Investigation of Job-related Coping Strategies Across Multiple Stressors and Samples. In: Job Stress Interventions. (Edited by Murphy L R, Hurrell J, Sauter S L and Puryear Keita E.) Washington DC: American Psychological Association
- SPECTOR P E (1986). Perceived control by employees: a meta-analysis of studies concerning autonomy and participation in decision-making. *Human Rel*, 39, 1005-1016
- SPOONER J (1995). Unison wins £23m for work injuries. *Unison Focus*, 1(13), 3
- STONE A A, NEALE J M and SHIFFMAN S (1993). Daily assessments of stress and coping, and their association with mood. *Ann Behav Med*, 15, 8-16
- SUTHERLAND V J and COOPER C L (1990). Understanding Stress. A Psychological Perspective for Health Professionals. Psychology and Health Series 5. London: Chapman and Hall
- SZABO S, MAULL E A and PIRIE J (1983). Occupational stress: understanding, recognition and prevention. *Experientia*, 39, 1057-1080
- TERRY D J and JIMMIESON N L (1999). Work Control and Employee Well-being: A Decade Review. In: International Review of Industrial and Organizational Psychology. (Edited by Cooper C L and Robertson R.) Chichester: American Ethnological Press
- TUC (TRADES UNION CONGRESS) (1988). Hazards at Work: TUC Guide to Health and Safety. London: TUC Publications
- TYLER P A and CUSHWAY D (1995). Stress in nurses: the effects of coping and social support. *Stress Med*, 11, 243-251
- VISWESVARAN C, SANCHEZ J I and FISHER J (1999). The role of social support in the process of work stress: a meta-analysis. *J Vocational Beh*, 54(2), 314-334
- WARR P B (1992). Job Features and Excessive stress. In: Prevention of Mental Ill Health at Work. (Edited by Jenkins R and Coney N.) London: HMSO