

CHAPTER SEVEN

JOB STRESS AND HEALTH

Pascale Le Blanc, Jan de Jonge
and Wilmar Schaufeli

Contents

- Chapter Outline
- Job Stress as a Social Problem
CASE STUDY 7.1
 - What Is Job Stress?
- Job Stress as a Process
- Interventions to Prevent or Reduce Job Stress
 - Chapter Summary
 - Discussion Points
 - Key Studies
 - Further Reading

Chapter Outline

This chapter focuses on job stress in relation to workers' physical and psychological health. We begin with an outline of job stress as a social problem, followed by a discussion of the main perspectives on (job) stress, resulting in a process model of job stress that will be used as a frame of reference in the remainder of the chapter. In the next section, several leading models on job stress and health are presented and discussed. The role of individual differences as well as workplace social support in the relationship between job stress and health is discussed. Finally, an overview of organizational and individual interventions to reduce job stress is given.

Job Stress as a Social Problem

Job stress is a major concern, not only for the employees involved but also for organizations and society as a whole. Ample evidence suggests that the prevalence of job stress is high. For instance, a survey among nearly 16,000 European workers revealed that 29 per cent considered that their work activity affected their health (Paoli, 1997). The work-related health problems mentioned most frequently were back pain (30 per cent), stress (28 per cent) and overall fatigue (20 per cent). In Britain, a National Survey of Health and Development of almost 1500 young men showed that 38 per cent of the sample were under some or severe 'nervous strain' at work, whereas only 8 per cent were under similar strain at home or in their personal lives (Cherry, 1978).

Prevalence rates of job stress are not only high, but also rising continuously. In Britain, an immense growth of stress-related absenteeism was observed across a 25-year period: from 1955 to 1979 absenteeism due to 'nervousness, debility and headache' increased by 528 per cent (Hingley and Cooper, 1986). In the Netherlands in 1967, when the Disability Security Act was introduced, mental disorders accounted for 11 per cent of workers' disability claims. This rate continued to rise steadily, so that 30 per cent are now assessed as work disabled on mental grounds – the largest single diagnostic group, followed by musculo-skeletal disorders (28 per cent) and cardiovascular disease (8 per cent), respectively (Houtman, 1997).

Needless to say, the expenditures on job stress are huge. It is estimated that the costs of sickness absences for stress and mental disorders exceed £5 billion per year in the UK, which amounts to over 10 per cent of the gross national product (GNP). On average, in the European Union 9.6 per cent of GNP is spent on the consequences of job stress, with the Netherlands in the leading position (13.9 per cent) (Cartwright and Cooper, 1996).

Case Study 7.1

During the past two years, Mr Whyte, a 48-year-old teacher at a vocational training centre, has played a crucial role in the merging of his school with another training centre. It has been a very hectic and busy time because he was one of the advocates of and active agents in that merger. After the merger was concluded Mr Whyte felt very disappointed, since he was not promoted to the newly created job as department coordinator in the new organization. Instead, the job he hoped to receive was offered to a younger colleague who had always been sceptical of the merger. Mr Whyte felt hurt, resentful and unfairly treated; in his opinion he had put much more time and effort

into reorganizing the school than his younger colleague – yet he was denied the appropriate reward. Soon after this event, Mr Whyte developed particular symptoms. He had occasionally felt tired before, but now it was different – he felt completely mentally exhausted. It took an extreme effort to take on anything. Previously he had quickly recuperated from his tiredness after a weekend or a couple of days off. Now, he had been on sick leave for over six months and he was still unable to perform his job because he felt extremely tired and anxious. He slept until ten o'clock in the morning, needed an additional couple of hours to wake up properly and felt tired all day long.

These immense costs have prompted action at national level, as well as at European level, with legislation that attempts to reduce job stress. This is particularly true in countries like the UK, Sweden and the Netherlands, and to a somewhat lesser extent in France and Germany (Kompier, De Gier, Smulders & Draaisma, 1994). Modern legislation emphasizes: (a) a broad and positive health concept, i.e. instead of solely combating ill-health, health, safety and well-being at work are promoted; (b) a comprehensive approach, integrating health, safety and well-being at work; (c) active involvement and joint responsibility of employer and employee; (d) self-regulation by providing a supportive environment, e.g. by institutionalizing occupational health and safety services (see also de Gier, 1995).

Thus, job stress is a major and rising concern in industrialized countries and it seems that the level of job stress has increased alarmingly in the past decades. This is illustrated by increasing stress-related absenteeism and work incapacity rates, as well as by rising associated costs.

What Is Job Stress?

The original meaning of the term 'stress' is derived from engineering. By analogy with physical force, it refers to external pressure that is exerted on a person, which in turn results in tension or 'strain' (Kahn and Byosiére, 1992). Within certain limits, people are able to deal with this pressure and adapt to the situation, and to recover when the stressful period is over. This is analogous to the bending and springing back of a metal bar. However, when the

Some time earlier – during that busy period at school – Mr Whyte had given up his hobbies: refurbishing antique furniture and playing bridge. Although he had enough time to pursue these hobbies now, he lacked the energy and didn't fancy them. Instead, he worried a lot and had problems concentrating. For instance, when reading the newspaper, after a few lines he forgot what he read previously. Moreover, he suffered from headaches and neck pain, and felt depressed and restless. Mr Whyte was particularly uncomfortable in interpersonal situations. He felt distressed – his throat was constricted and he was not able to breathe normally. As a result he started to avoid

social situations and became more and more isolated from colleagues, friends, neighbours and relatives. If things did not work out properly or someone was unkind, Mr Whyte became upset. He was irritable, emotional and easily hurt, which strained his family, especially his two teenage children. But perhaps most frightening of all, Mr Whyte did not recognize himself any more; he felt powerless and totally out of control. He could not understand what was happening to him.

Source: D. Enzmann (1998) *The Burnout Companion to Research and Practice: a Critical Analysis*. London: Taylor & Francis, p. 20.

pressure is too large, the bar will bend so much that it cannot return to its original position any more. The limiting value to which the system can no longer adapt is dependent upon the quality of the metal and its condition (e.g. temperature). In human beings, an individual's adaptability is determined by personal characteristics, e.g. his or her stress tolerance, and by the environment, e.g. the availability of social support (see below).

However, in everyday language, as well as in the scientific literature, the term 'stress' is used to refer to the cause as well as to the accompanying state of tension, and to the negative consequences of this state. As there is little agreement as to how exactly 'stress' should be defined, there is no general theory of stress. One of the main reasons for this lack of agreement lies in the large number of disciplines with different perspectives involved in stress research, such as biology, psychology, sociology, occupational medicine, and epidemiology (Buunk et al., 1998). Nevertheless, most researchers in the field of stress do agree that three different meanings of the term stress can be distinguished (e.g. Cooper and Payne, 1988; Kasl, 1987; Kahn and Byosiére, 1992; Semmer, 1996): stress as a stimulus, stress as a response and stress as a mediational process between stressor (stimulus) and reaction (response). Each of these perspectives is discussed below, with a focus on *job-related stress*.

Stress as a stimulus: poor work situations

In the field of experimental psychology and ergonomics, stress is primarily regarded as a *stimulus*, i.e. a negative situation or a noxious event that acts on

Table 7.1 Categories of job-related stressors

Category	Stressor
Job content	work over-/underload complex work monotonous work too much responsibility dangerous work conflicting/ambiguous demands
Working conditions	toxic substances poor conditions (noise, vibrations, lighting, radiation, temperature) work posture physically demanding work dangerous situations lack of hygiene lack of protective devices
Employment conditions	shift work low pay poor career prospects flexible labour contract job insecurity
Social relations at work	poor leadership low social support low participation in decision making liberties discrimination

the individual and is supposed to have negative effects. This use of the term stress closely resembles its original meaning. In the domain of job stress, stressful stimuli can be categorized under four main categories: job content, working conditions, employment conditions and social relations at work. In table 7.1, major stressors belonging to each of these categories are given.

The amount of stress is defined in terms of the extent of exposure to a noxious stimulus; for example, the higher the working pace, the higher the level of stress. Accordingly, a linear relationship between a stressful stimulus and its (negative) effects is assumed. Until now, most stress research departing from this perspective has focused on job content by studying the stressful effects of certain job characteristics (e.g. Karasek, 1979; Payne, 1979; Karasek and Theorell, 1990).

Stress as a response: job-related strain

In psychophysiology and occupational medicine, stress is viewed as a psychological and/or physiological *response* of the organism to some kind of threat.

This notion of stress is based on Selye's (1978) classical general adaptation syndrome (GAS). According to Selye, exposure to a noxious stimulus triggers a complex of non-specific physiological reactions that are intended to protect the individual against harmful consequences. The GAS consists of three stages: the alarm reaction (mobilization by means of physiological and hormonal changes), the resistance stage (optimal adaptation by activating appropriate systems) and exhaustion (depletion of adaptation energy). Although the GAS may be adaptive initially, negative consequences such as fatigue, tissue damage and high blood pressure may occur if the individual is not able to cope with the stressful stimulus and the stress reactions persist over longer periods of time. As stated above, it is assumed that the same, non-specific, response pattern is triggered by different types of stressful stimuli, and that an individual's thoughts and emotions do not influence the type of response. However, these assumptions have proved to be untenable, as numerous studies have demonstrated that different types of physiological and hormonal reactions may occur, depending on the nature and interpretation of the stimulus and the accompanying emotions. For example, laboratory and field studies by Frankenhaeuser and her colleagues (for an overview see Frankenhaeuser, 1978) have demonstrated that the catecholamines adrenaline and noradrenaline play a main role in mobilizing acute adaptive resources, whereas corticosteroids provide more enduring support in the case of prolonged stress. In a study among sawmill workers, Frankenhaeuser and Gardell (1976) found that stress, as reflected in adrenaline and noradrenaline excretion and in self-reports of irritation, was most severe when the job was highly repetitious, when the worker had to maintain the same posture throughout working hours and when the work pace was controlled by the machine. The build-up of catecholamine arousal during the working day should be regarded as a warning signal, indicating that the organism is forced to mobilize 'reserve capacity', which in the long run is likely to add to its wear and tear. Indeed, interview data showed that an inability to relax after work was a common complaint among high-stress workers. Moreover, the frequency of psychosomatic symptoms, as well as absenteeism, was exceptionally high in this group (Frankenhaeuser, 1978).

Stress as a mediational process

Whereas both the stimulus approach and the response approach to stress emphasize directly measurable factors (characteristics of the environment and measurable stress reactions, respectively), this approach focuses on the *cognitive, evaluative* and *motivational processes* that intervene between the stressful stimulus and the reaction (response). According to the mediational approach, stress reactions are a result of the interaction between person and environment. Potentially stressful stimuli may lead to different types of stress reactions in different individuals, depending on their cognitive evaluations (appraisals) of

the situation (Lazarus and Folkman, 1984) and the resources they have at their disposal to cope with the stressful situation.

Latack and Haylovic (1992) developed a conceptual framework for coping with job stress. In this framework, a distinction is made between the focus of coping and the method of coping. The focus of coping can be problem-oriented or emotion-oriented. Problem-oriented coping refers to efforts aimed at altering the transaction between person and environment. For instance, it may include behaviours like seeking help or increasing efforts to encounter the threat. Emotion-oriented coping, on the other hand, is defined as efforts aimed at regulating the emotions of a person (e.g. cognitive strategies like avoidance and relaxation techniques). With respect to the method of coping, two dimensions are distinguished. First, coping behaviour can be observable (overt) or not observable (covert). Second, each of these two types of coping behaviour can be aimed at control or at escape. When the focus and/or method of coping do not match the stressor at hand, feelings of stress will be sustained or even intensified. Basically, active ways of coping (e.g. control coping) are to be preferred to passive ones, such as escape coping (e.g. de Rijk, Le Blanc, Schaufeli and De Jonge, 1998), provided that the situation offers possibilities for active intervention.

Although the mediational approach has paved the way for a more theoretical view on the (job) stress process (e.g. the person-environment fit model, discussed below), a main disadvantage is that almost all studies employing this perspective rely exclusively on self-reports of both stressful stimuli and stress reactions. This makes it very difficult to disentangle the occurrence of an event, its cognitive evaluation and the individual's reaction to it.

In the preceding paragraphs, a static (stimulus or response) versus a more dynamic perspective (mediational process) on (job) stress was presented. In the remaining part of this chapter, job stress is defined as an experienced incongruence between environmental (job) demands and individual/situational resources that is accompanied by mental, physical or behavioural symptoms. We will refer to stressful stimuli as 'stressors', and to their consequences as 'stress reactions' or 'strains'.

Before we turn to a more detailed description of different types of stress reactions, the distinction between *event* stressors and more continuous or *chronic* stressors should be clarified (Wheaton, 1996). These types of stress define end points on a continuum standing for variation in how discretely or continuously stressors operate. The defining issue of an event stressor is its discreteness, both in typical time course and in its onset and offset. For example, crossing the road, you notice a fast car dangerously close, which represents a high-priority psychological demand. You rapidly dash out of your path, and are soon back in an unstressed state. However, a second, very different form of stress can be defined that: (a) does not necessarily start as an event, but develops slowly and insidiously as a continuing problematic condition in our social environments and roles; and (b) typically has a longer time course than events, from onset to resolution. This kind of stressors can be referred to as

chronic stressors, 'problems and issues that are either so regular in the enactment of daily roles and activities or defined by the nature of daily role enactments or activities that they behave as if they are continuous for the individual' (Wheaton, 1996). Chronic stressors are less self-limiting in nature than a typical event stressor. An event, almost by definition, will end, while chronic stressors are typically open-ended, using up our resources in coping, but not promising resolution. Most generally, chronic job stress arises from one of an array of problems; for instance, excessive task or role demand, excessive complexity, uncertainty, conflict, restriction of choice and under-reward.

An example of a state of chronic job stress is burnout, which can be defined as

a persistent, negative, work-related state of mind in normal individuals that is primarily characterized by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work. This psychological condition develops gradually but may remain unnoticed for a long time for the individual involved. It results from a misfit between intentions and reality at work. Often burnout is self-perpetuating because of inadequate coping strategies that are associated with the syndrome. (Schaufeli and Enzmann, 1998, p. 36)

The burnout syndrome is illustrated in more detail by the case of Mr Whyte (case study 7.1).

Stress reactions

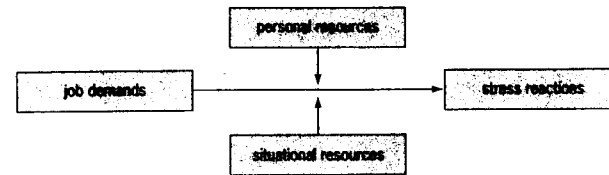
Stress reactions (strains) can be expressed in different ways and can be classified in five different clusters: (a) affective, (b) cognitive, (c) physical, (d) behavioural and (e) motivational. In addition, three levels of expression can be distinguished, since stress displays itself not only in the form of individual symptoms, but also in the form of symptoms at the interpersonal and organizational level. In table 7.2, an overview of different types of stress reactions on each of the three different levels is presented.

Of course, stress reactions can differ in their intensity. Sometimes, the negative effects of stressors can easily be overcome by recreation and relaxation. However, in the case of prolonged exposure to stressful stimuli, the individual may not be able to reduce his or her (physiological) state of stress, and high activation levels are sustained (Ursin, 1986). This can in turn give rise to chronic physical (e.g. coronary heart disease; Siegrist, 1996) and/or psychological stress complaints (e.g. burnout; Maslach and Jackson, 1986; Schaufeli and Enzmann, 1998).

In the remaining part of this chapter, the process model presented in figure 7.1 is used as a frame of reference. This process model is based upon the insights we gained from several theoretical models and empirical studies concerning job stress and health. The model integrates much of what has been outlined above. According to this process model, different types of job

Table 7.2 Possible stress symptoms at the individual, interpersonal and organizational levels

Type/level	Individual	Interpersonal	Organizational
Affective	anxiety tension anger depressed mood apathy	irritability being oversensitive	job dissatisfaction
Cognitive	helpless/powerlessness cognitive impairments difficulties in decision making	hostility suspicion projection	cynicism about work role not feeling appreciated distrust in peers, supervisors and management
Physical	physical distress (headache, nausea, etc.) psychosomatic disorders (gastric-intestinal disorders, coronary diseases etc.) impairment of immune system changes in hormone levels		
Behavioural	hyperactivity impulsivity increased consumption of stimulants (caffeine, tobacco) and illicit drugs over- and undereating	violent outbursts aggressive behaviour interpersonal conflicts social isolation/withdrawal aggressive behaviour	poor work performance declined productivity tardiness turnover increased sick leave poor time management
Motivational	loss of zeal loss of enthusiasm disillusionment disappointment boredom demoralisation	loss of interest in others indifference discouragement	loss of work motivation resistance to go to work dampening of work initiative low morale

**Figure 7.1** A process model of job stress.

demands (stressors) can result in different types of stress reactions (strains). Moreover, the relationship between job demands and strains is expected to be moderated by (a) personal resources (e.g. coping styles), and (b) situational resources like workplace social support. The different components of our process model are elaborated in the next section in a discussion of the central themes in current theories on job stress.

Job Stress as a Process

Many different models focusing on job stress have been illuminated in the literature, and most of them are connected with our process model presented in figure 7.1. In this section we discuss several leading models on job stress and health: the Michigan model and the closely related person-environment fit model, the vitamin model, the demand-control-support model and the effort-reward imbalance model. Finally, some attention is given to the role of individual differences and workplace social support in the job stress process.

Early Michigan models and person-environment fit model

The most general job stress models were developed at the Institute for Social Research (ISR) of the University of Michigan (hence the designation 'ISR' or 'Michigan models'). Since the basic model was first devised, several different versions of it have been developed. We confine ourselves to two models here: the basic Michigan model and the elaborated person-environment fit model (see Kahn and Byosiene, 1992). The basic model is a combination of all kinds of conceptual categories rather than the reflection of particular theory. At a later stage attempts have been made to define these factors more precisely and to determine interrelationships.

The Michigan model reflects four main groups of variables, arranged in a causal sequence (see figure 7.2). Organizational characteristics (e.g. company size, hierarchical structure and job description) may lead to psychological stressors, such as role conflict, role ambiguity and role overload. Role conflict arises

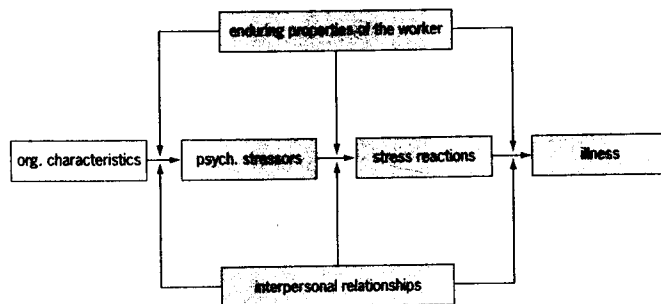


Figure 7.2 The Michigan Model.

when expectations and demands are difficult to meet or mutually incompatible. Role ambiguity occurs when an employee does not have sufficient or adequate information about the nature of the role itself. Finally, role overload is simply having too much to do or perceiving the role as being too difficult (Hingley and Cooper, 1986; Buunk et al., 1998). These stressors, in turn, may lead to stress reactions or strains. Strains are affective, physiological and behavioural responses of the individual (e.g. job dissatisfaction, high blood pressure, high heart rate, absenteeism). Finally, strains may lead to both mental and physical illness, such as depression, cardiovascular disease, cancer and gastric ulcers. The postulated relationships between the four major groups of variables are assumed to be moderated by (a) enduring properties of the individual worker (like type A/B behaviour) and (b) interpersonal relationships (e.g. social support). A type A behaviour pattern is characterized by a sense of time urgency, impatience, restlessness, high work involvement and competitiveness. In contrast, a type B behaviour pattern is characterized by a calmer, more patient and more relaxed way of functioning (Furnham, 1992; Buunk et al., 1998).

Although the all-inclusive Michigan model has a heuristic value and has stimulated a lot of research, several criticisms still remain. The most important criticism is that the model is not based on a theoretical perspective that leads to specific hypotheses. Therefore, it is very difficult to validate the model empirically, which makes refinements greatly needed.

The person-environment (P-E) fit model is an example of such a refinement (e.g. French, Caplan and Harrison, 1982). This model is based on the premise that the interaction between environmental variables and relevant properties of a person determines job-related strains. According to the model, job stress can be defined as either a misfit between the person's opportunities

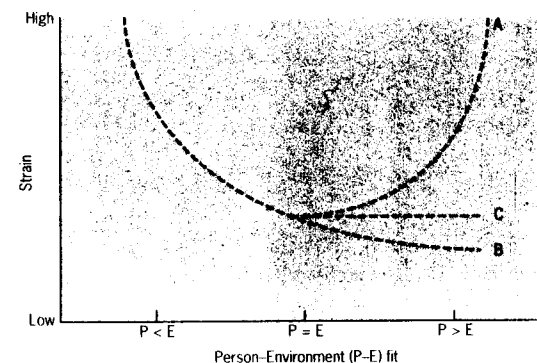


Figure 7.3 Different forms of P-E fit relationships associated with job-related strain.

and environmental supplies or a misfit between the person's abilities and environmental demands. For example, there may be a discrepancy between how fast an assembly line worker can work and the required number of ready-made products. A second element of the P-E fit model is the distinction between objective and subjective misfit. Objective misfit refers to a discrepancy between the actual state or condition a worker is in and the objective characteristics of the work situation. Subjective misfit concerns a discrepancy between a worker's view of himself and his view of the environment. However, usually only the subjective person and subjective environment are assessed, and not their objective counterparts. Additionally, defence mechanisms tend to reduce subjective misfit; for instance, by denial (see French et al., 1982).

A final element concerns the particular types of relationships in the model. For instance, both positive and negative misfit may lead to job stress, assuming curvilinear (U-shaped) relationships (see line A in figure 7.3). Furthermore, the model predicts asymptotic relationships; that is, only a deficit in the person or a surfeit in the environment will lead to strains (line B). Caplan (1983) notes an example where workers with a strong need for self-control may feel threatened by too little opportunity for participation in decision-making. Reducing this deficit will reduce the strain they experience. These workers may experience little further reduction in strain once the opportunity for participation exceeds the minimum they find acceptable. The third relationship reflects a purely linear effect of one P-E fit component relative to the others on job-related strains (line C). In several studies such proposed relationships have indeed been found. For instance, the pioneering study by Caplan et al. (1975) among over 2000 workers found a U-shaped relation-

ship between the misfit of actual and desired complexity of work on the one hand and level of depression on the other. Both too little and too much complexity were related to depression. More recently, Edwards and Harrison (1993) found additional evidence that a perfect fit between what an employee desires and obtains is related to the lowest level of job-related strains.

Despite the plausible idea underlying the model, a few points of criticism must be mentioned (e.g. Buunk et al., 1998). To begin with, the empirical evidence is not very impressive and the model typically receives mixed support. Second, all kinds of strains are lumped together, without distinguishing between direct, short-term reactions (e.g. anxiety) and long-term reactions (e.g. psychosomatic complaints). Finally, as the next models suggest, it may be a mistake to include such a broad array of work conditions under the single umbrella of job stressors.

Vitamin model

Warr (1987) developed in the 1980s his framework of mental health, referred to as the vitamin model (VM). The central idea underlying the VM is that mental health is affected by environmental psychological features, such as job characteristics, in a way that is analogous to the effects that vitamins are supposed to have on our physical health. Warr's framework has three principal parts:

- 1 Job characteristics are grouped into nine categories that relate differently to mental health outcomes according to the type of 'vitamin' they represent.
- 2 A three-axial model of affective well-being, a core aspect of mental health, is postulated.
- 3 It is assumed that persons and situations interact in the prediction of mental health.

Warr (1987) draws an analogy between the way in which vitamins act on the human body and the effects of job characteristics on mental health. Following this line of reasoning, de Jonge and Schaufeli (1998) refer to Warr's vitamins as 'psychological work vitamins'.

Generally, as figure 7.4 shows, the absence of certain job characteristics impairs mental health, whereas their presence initially has a beneficial effect on employee mental health (segment A). Beyond a certain required level, vitamin intake no longer has any positive effects: a plateau has been reached and the level of mental health remains constant (segment B). The next segment shows that a further increase of job characteristics may either produce a 'constant effect' or be harmful and impair mental health (denoted by 'additional decrement'). According to Warr (1987, 1994c), which of the two effects will occur depends on the particular job characteristic.

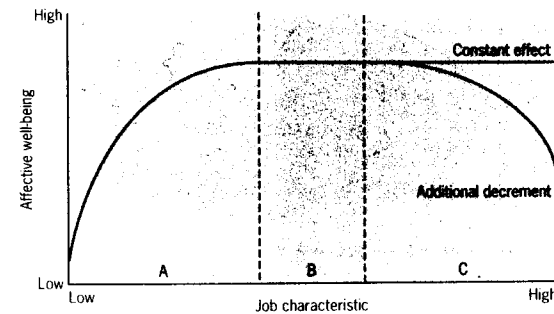


Figure 7.4 The vitamin model.

Table 7.3 The nine job characteristics of the vitamin model

CE job characteristics	AD job characteristics
Availability of money	Opportunity for control
Physical security	Opportunity for skill use
Valued social position	Externally generated goals
	Variety
	Environmental clarity
	Opportunity for interpersonal contact

CE, constant effect; AD, additional decrement.

Warr (1987, 1994c) identified nine job features that may act as determinants of job-related mental health (see table 7.3). Warr assumes that six job characteristics (e.g. opportunities for control and variety) have curvilinear effects (U-shaped). A lack of such features or an excess of such features will affect mental health negatively. For example, the negative impact of excessively high levels of job control has been identified in laboratory as well as occupational studies (e.g. Burger, 1989; de Jonge, Schaufeli and Furda, 1995). The remaining three job characteristics (physical security, availability of money and valued social position) are supposed to follow a linear pattern: the higher such a job characteristic, the higher the level of mental health will be. Warr (1998) noted, however, that it is improbable that the latter associations are purely linear. For instance, it seems plausible that an increase in income will have greater benefits at low income levels than at extremely high income levels. In

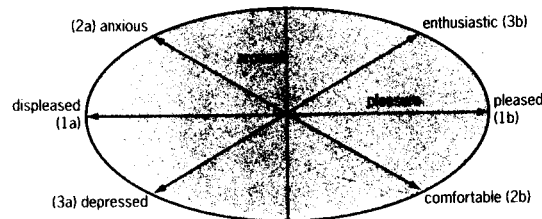


Figure 7.5 Job-related affective well-being.

other words, increased levels are desirable until a certain plateau has been reached.

A principal indicator of *job-related* mental health in psychological research is affective well-being. In order to measure affective well-being empirically, Warr (1998) proposed three dimensions: displeasure to pleasure, anxiety to comfort and depression to enthusiasm (see figure 7.5). Job-related affective well-being has most commonly been studied by measures of job satisfaction, job-related anxiety or tension and occupational burnout and depression.

Finally, in terms of the interaction between persons and situations, the VM is essentially situation centred, in that it focuses on the association between job characteristics and mental health. However, there are undoubtedly differences between people in the nature of those associations (Warr, 1994c). Therefore, three categories of individual characteristics are viewed as possible moderators of the effects of job characteristics on mental health: *values* (e.g. preferences and motives), *abilities* (like intellectual and psychomotor skills) and *baseline mental health* (i.e. dispositions like negative affectivity).

Moderating effects are expected, especially in the case of a so-called 'matching' individual characteristic (Warr, 1994c). In that respect, individual characteristics which match particular job characteristics will cause a stronger moderating effect than those which lack this matching property. Job autonomy may serve as an example: a matching individual characteristic might be the value 'preference for autonomy'. It is assumed that the preference for autonomy moderates (i.e. changes) the relationship between job autonomy and, for instance, job satisfaction (Warr, 1987). In case of low preference for autonomy, for example, the relationship between autonomy and satisfaction will be zero (or even negative), whereas in case of high preference for autonomy the relationship between the two variables will be positive.

In recent years, a few cross-sectional studies have investigated the patterns proposed by the VM (e.g. Warr, 1990b; Xie and Johns, 1995; de Jonge and Schaufeli, 1998). Most notably, a study by de Jonge and Schaufeli (1998)

among 1437 Dutch healthcare workers confirmed several postulated curvilinear relationships by means of a comprehensive empirical test. To summarize all the VM studies briefly, the present results are mixed and inconclusive. Job demands and job control, for instance, seem to be curvilinearly related to some aspects of employee mental health in the way that is predicted by the model, whereas the effect of workplace social support does not follow the model. Furthermore, all studies have failed to take account of the possibly multifaceted ways in which the nine job characteristics may affect job-related well-being. Added to this, longitudinal studies have not been reported yet, which means that causal orders in associations still have to be proved. Finally, there has been no empirical evidence for the interactions between individual and job characteristics as related to employee health *within* the VM.

Demand-control-support model

Since the 1980s, the job demand-control (JD-C) model has dominated the empirical research on job stress and health. The model was introduced by Karasek in 1979 and further developed and tested by Karasek and Theorell (1990; Theorell and Karasek, 1996). In 1988, Johnson and Hall elaborated the JD-C model by adding the dimension of *workplace social support*. This expanded model was called the demand-control-support (DCS) model. In order to understand the principles of both models, we first discuss the JD-C model.

The JD-C model, as depicted in figure 7.6, postulates that the primary sources of stress lie within two basic job characteristics: *psychological job demands* and *job decision latitude*. According to the model, the jobs most likely to show extreme job-related stress reactions (like exhaustion and cardiovascular diseases) are those that combine high demands and low decision latitude. This combination is labelled *high strain* (quadrant 1). There is also an opposite situation termed *low strain*; that is, jobs in which job demands are low and workers' decision latitude is high (quadrant 3). In this situation the model predicts lower than average levels of stress reactions.

The second important assumption of the model is that motivation, learning and personal growth will occur in situations where both job demands and decision latitude are high (*active jobs*, quadrant 2). This assumption is closely related to what might be called 'good stress', since job stressors are translated into direct action (i.e. effective problem-solving), with little strain left to cause job-related stress (Selye, 1956; Karasek et al., 1998). The opposite of this situation is found in *passive jobs*, in which skills and abilities may atrophy (quadrant 4). This situation resembles the 'learned helplessness' phenomenon (Lennerlöf, 1988).

In short, psychological demands and decision latitude affect two psychological mechanisms, reflected by diagonals A and B in figure 7.6. The first mechanism influences the (adverse) health of the employee (diagonal A), while

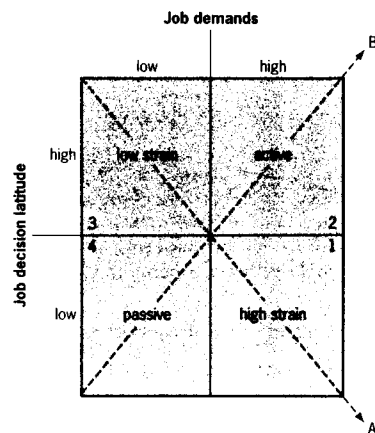


Figure 7.6 The job demand-control model.

the other influences the work motivation and the learning behaviour of the employee (diagonal B).

The elaborated DCS model (figure 7.7) was developed to examine the joint effects of three instead of two basic characteristics of the work organization, i.e. job demands, job control and workplace social support. In this extended model, both the strain and activity assumptions are split up into *isolated* and *collective* conditions, and the processes are consequently redefined. It is, for instance, assumed that the most unfavourable effects are expected for a combination of high demands, low decision latitude and low social support. This combination is sometimes called *iso-strain* (Johnson and Hall, 1988). Social support is assumed to buffer psychological strain, depending on the degree of social and emotional integration, help and trust between supervisors, colleagues etc. We discuss the (general) function of workplace social support in the job stress process below.

Two major conclusions can be drawn from the studies using and evaluating the two models (de Jonge and Kompier, 1997). The first conclusion is that large (mostly epidemiological and population-based) studies offer the most support for the model, and for the strain assumption in particular. The second conclusion is that the assumption that the combination of psychological demands, decision latitude and social support involves stronger responses (such as more physical symptoms or more work motivation) is not often sup-

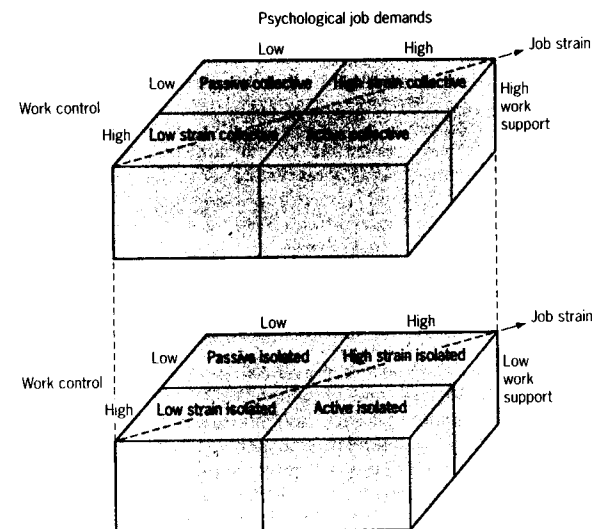


Figure 7.7 The demand-control-support model.

ported. It is more often the case that the three components separately have an impact on the outcome variables than that they reinforce each other in this respect (so-called synergistic effects).

Obviously, the strength of the DCS model lies in its simplicity and practical implications. However, the content and methodology of the model have been commented on in the past few years. Various authors are of the opinion that a number of theoretical and methodological problems remain to be solved (e.g. Jones and Fletcher, 1996; Kasl, 1996; Kristensen, 1996). First, for instance, the conceptualization, operationalization and measurement of the basic dimensions should be elaborated further. Second, since this is a situation-centred model, the issue of objective versus subjective measurement of job characteristics has been neglected thus far. More specifically, the model focuses on characteristics of the work situation, but these are usually determined with the use of self-report questionnaires. Lastly, many studies have failed to take into account individual differences (like locus of control and coping styles), considering only the job factors.

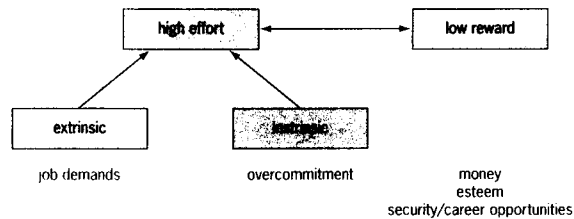


Figure 7.8 The effort-reward imbalance model.

Effort-reward imbalance model

The final model discussed here is the model of effort-reward imbalance at work, developed by Siegrist and his group (e.g. Siegrist, 1996; Peter and Siegrist, 1997). This model has a more sociological focus and shifts from the concept of job control (i.e. control paradigm of job stress) to the reward structure of work (i.e. reward paradigm of job stress).

In the effort-reward imbalance (ERI) model, the work role of an employee is considered a basic tool to link important self-regulatory functions (self-esteem and self-efficacy) with the societal structure of opportunities and rewards (see figure 7.8). Essentially, the model is based upon the principle of reciprocity: high effort spent at work in combination with low reward obtained may cause a state of emotional distress and sympathetic arousal, with an inclination to cardiovascular risks. For example, in the case of Mr Whyte, the effort he invested in reorganizing the school was not rewarded by promoting him to department coordinator. The resulting feelings of unfairness most probably triggered the onset of his stress symptoms.

Effort is evaluated as two components: extrinsic effort or *job demands* (like time pressure, responsibility and physical demands), and intrinsic effort or *overcommitment*. The latter is regarded as a specific personal pattern of coping with job demands and of eliciting rewards that is relatively stable over time, and that may prevent people from accurately assessing cost-gain relations. Overcommitment is assessed by using four dimensions of coping behaviour (need for approval, competitiveness and latent hostility, impatience and disproportionate irritability, and inability to withdraw from work obligations), which are combined to form one latent factor. According to Peter, Geißler and Siegrist (1998), rewards are distributed to employees in three different ways: *money* (i.e. adequate salary), *esteem* (e.g. respect and support) and *security/career opportunities* (e.g. promotion prospects, job security and status consistency).

Published empirical studies with the ERI model are growing rapidly in number, and the combination of high effort and low reward at work has found

to be a risk factor for cardiovascular health, sickness absence and self-reported symptoms (e.g. Siegrist, 1996; Peter and Siegrist, 1997; Bosma, Peter, Siegrist and Marmot, 1998; Peter et al., 1998).

Although the ERI model looks very promising in the research domain of job stress and health, several preliminary comments have to be made (see also Kasl, 1996; Siegrist, 1996). First, it seems inconsistent to make a clear distinction between extrinsic and intrinsic efforts, but no clear distinction between extrinsic and intrinsic rewards. Intrinsic rewards, however, seem to be part of the overcommitment construct (i.e. need for approval). Second, one might question the extent to which the overcommitment construct is a stable trait and to what extent it is related to the work environment. For instance, will some employees experience more stress because of their character, or do some job characteristics evoke overcommitment? Third, the term *status inconsistency* is used to describe a misfit between occupation and education in both directions. In the model, both directions reflect low reward or low status control, which is not completely consistent with the work and organization psychology literature. From that point of view, an excess of education over occupational status was seen as a risk factor, and not vice versa. Fourth, because the model encompasses a broad social context, it is remarkable that little attention has been paid so far to the relationship between work and family life as an environmental factor of possible relevance ('work-home interference'). Finally, a last comment concerns the dynamic nature of the ERI model. Longitudinal studies are clearly needed in order to investigate the time-dependent (accumulating) effects on both effort and reward, and on experience of high-cost/low-gain conditions.

Individual differences and job stress

As we mentioned above, individual differences may play an important role in the relationship between job factors and employee health. From a work and organization psychological point of view, researchers are mainly interested in *job-related* individual difference variables (like coping styles or locus of control) and their capacity to explain additional variance in health outcomes. In addition to this, in-depth investigation of the form and nature of individual difference effects (whether or not in combination with job factors) is on the research agenda. The first task, however, is to classify three obvious categories of individual difference variables (Warr, 1987; Payne, 1988; Parkes, 1994):

- 1 *Genetic characteristics* (e.g. gender, constitution, physique).
- 2 *Acquired characteristics* (e.g. age, education, social class, skills).
- 3 *Dispositional characteristics* (e.g. coping styles, preferences and type A/B behaviour).

Space does not allow a complete description of all three categories. In this chapter, we therefore restrict ourselves to the category of individual difference

variables that stands out in the literature as being potentially relevant in the job stress process; that is, the dispositional characteristics (e.g. Parkes, 1994; Spector and O'Connell, 1994).

Generally, many job stress studies have shown that the relationship between a certain job stressor and a certain job strain mainly, or even exclusively, occurs in employees with particular dispositional characteristics (e.g. Warr, 1987; Parkes, 1994). For example, a demand-control study by de Rijk and colleagues (1998) involved intensive care unit nurses, and showed a synergistic effect of job demands and decision latitude only if employees dealt with their problems actively. In other words, for nurses who are inclined to use control (i.e. high in active coping), decision latitude acts as a stress buffer, as it attenuates the increase in job strain due to job demands. Although such model-driven findings are obtained more and more, they are not found as consistently as one would expect from a more theoretical point of view (Semmer, 1996). Limitations tend to lie in the design (often cross-sectional surveys) and methodology of the studies reported (moderated or subgroup regression procedures) as well as in the individual difference measures (e.g. Cohen and Edwards, 1989; Parkes, 1994). Furthermore, it remains unclear at what point in time the individual difference variables influence the job stress process. For instance, do they change the objective-subjective stressor relationship, or do they affect the perceptions of job stress as related to affective, cognitive, physical and behavioural outcomes?

To sum up briefly, the results of individual difference studies that were discussed seem to indicate that job stressors have negative effects on the health of all workers, although these may be more severe for some and less severe for others, depending on *specific* dispositional characteristics of the task performers in question.

Workplace social support and job stress

Workplace social support provided by superiors, colleagues and subordinates is generally thought to have an important stress-reducing function. There are numerous definitions and conceptualizations of 'social support'. This concept is used to refer to, for example, the existence of good, pleasant relationships with others, the availability of others in the case of problems and help, understanding and attention provided when one is faced with difficulties. In general, many researchers agreed on a distinction between four conceptualizations of workplace social support that cover most of the definitions (see Buunk, 1990; Peeters, 1994; Sarason and Sarason, 1994):

- 1 *Social integration*: the number and strength of the connections of the individual worker to others in his or her social network.
- 2 *Satisfying relationships*: a good organizational climate, and pleasant, close working relationships with superiors, colleagues and subordinates.

- 3 *Perceived available support*: the appraisal that others can be relied on for direct aid or assistance, information, advice, guidance and empathic understanding.
- 4 *Actually received support*: once a stressor has come into existence, superiors, colleagues or subordinates may perform supportive acts to reduce job stress.

With regard to the content of workplace social support, a distinction is usually made between four types (House, 1981): *emotional support* (e.g. through empathy, caring, love, trust and concern), *instrumental support* (e.g. direct help provided by others), *informational support* (e.g. advice, information, suggestions or directions) and *appraisal support* (e.g. feedback or social comparison relevant to a person's self-evaluation). It should be emphasized that these four types of support are empirically closely related (Buunk et al., 1998).

The stress-reducing functions of workplace social support are generally referred to as *buffer effects*, which are distinguished from *direct effects* (e.g. Cohen and Wills, 1985). A buffer effect occurs when social support alleviates the impact of job stressors on stress reactions, and has a positive effect when strong job stressors are involved. Direct effects, on the other hand, refer to a positive influence of workplace social support on a person's health, irrespective of whether or not people are under job stress. Empirical research provides evidence for the buffering effects of workplace social support, although the results are not very consistent. In many studies only a few of the investigated buffer effects are found to be significant. With respect to direct effects, a lot of studies have found moderate negative associations between workplace social support and psychological stress reactions (for overviews, see Cohen and Wills, 1985; Buunk et al., 1998).

By clarifying the relationships between different types of job characteristics and health, the above models have given some indications of interventions that can be used to prevent or reduce job stress. In the final section of this chapter, a systematic overview of this type of intervention is presented and discussed.

Interventions to Prevent or Reduce Job Stress

Job stress interventions may focus on three levels:

- *The organization*. By changing the work situation through organization-based interventions the source of the problem is tackled and the employee's negative reaction is reduced.
- *The individual-organization interface*. By increasing the employee's resistance to specific job stressors, his or her vulnerability decreases.
- *The individual*. By learning to cope better with stress in general, the individual prevents negative psychological effects of job stressors.

Table 7.4 Overview of job stress interventions

Focus/purpose	Identification	Primary prevention	Secondary prevention	Treatment	Rehabilitation
Organization	Job stress audit	Improving work content and environment; time scheduling; management development; corporate fitness and wellness programmes; career management	Anticipatory socialization; communication; decision-making and conflict management; organizational development	Institutionalization of occupational health and safety services; employee assistance programmes	Outplacement
Individual/organization	Personal screening	Time management; interpersonal skills training; promoting a realistic image of the job; balancing work and private life	Peer-support groups; coaching and consultation; career planning	Specialized counselling and psychotherapy	Individual guidance and assistance
Individual	Self-monitoring	Didactic stress management; promoting a healthy lifestyle	Cognitive-behavioural techniques; relaxation		

In addition, job stress interventions may serve five purposes:

- *Identification* (i.e. early detection of job stressors and stress reactions).
- *Primary prevention* (i.e. reduction of job stressors).
- *Secondary prevention* (i.e. altering the ways employees respond to job stressors).
- *Treatment* (i.e. healing those who suffer severely from job stress).
- *Rehabilitation*¹ (i.e. planned return to the previous job).

Levels and purposes of job stress interventions may be combined into a classification table that constitutes a framework for discussing various approaches (see table 7.4; for more elaborate recent reviews see Ivanchevich, Matteson, Freedman and Phillips, 1990; Burke, 1993; Ross and Altmaier, 1994; Murphy, 1996).

Interventions primarily aimed at the organization

Instead of a prime target, reducing job stress is a mere by-product of organization-based interventions. Usually, such interventions are primarily aimed at improving efficiency or effectiveness. Organization-based interventions focus on: (a) surveillance (i.e. job stress audit); (b) removal or reduction of stressors (i.e. improve the job content and the work environment, better time scheduling, improve communication, decision-making and conflict management, and organizational development); (c) improve the fit between the employee and the organization (i.e. career management, anticipatory socialization, management development and outplacement); (d) institutionalization of procedures and services (i.e. corporate fitness and wellness programmes, enrichment of occupational health and safety services and employee assistance programmes).

An employee survey (*job stress audit*) is used to 'take the stress temperature' of the organization by comparing employees across units, locations, occupations or jobs. Typically, screening instruments include several job stressors, ways of coping with stress and mental and physical stress reactions (e.g. the occupational stress indicator: Cooper, Sloan and Williams, 1988).

Improving the job content and the work environment are basically directed towards reducing quantitative and/or qualitative work overload. Broadly speaking, three types of strategies can be followed to reduce workload: (a) job redesign (e.g. job enlargement, by adding duties or responsibilities to the

1 Note that, by definition, rehabilitation goes beyond the purely individual level in the sense that it inevitably takes into account the employee's relation with the organization. Therefore, the individual/rehabilitation cell in table 7.4 is empty. Moreover, since we focus on job-related problems, a general discussion of psychotherapy and counselling is beyond the scope of this book. Accordingly, the individual/treatment cell also remains empty.

current job; job enrichment, by restructuring a job so that it is more meaningful, challenging and intrinsically rewarding; job rotation, by periodically changing jobs or duties); (b) clarifying the employee's role characteristics (e.g. introduce job descriptions or role clarification to analyse discrepancies in role expectations); (c) improving the physical work environment (e.g. by introducing focus groups, the expertise of the employees can be used to generate ideas and solutions about how to improve stressful working conditions).

Proper time scheduling can reduce the number of working hours (e.g. the introduction of 'mental health days', sabbatical leave, or retreats; the encouragement of part-time employment and discouragement of excessive overwork).

Management development is primarily implemented through management education and management training. For instance, managers can be given feedback about their leadership behaviour from regular surveys of their subordinates (e.g. as part of a job stress audit).

Career management is the responsibility of the organization, whereas career planning (see below) is the responsibility of the employee. The former consists of an institutionalized set of rules and procedures that cover such areas as recruitment, selection, placement, development and promotion.

Corporate fitness and wellness programmes may focus on control of high blood pressure, smoking cessation, weight reduction, physical fitness, reducing lower back pain, health and safety education, reduction of alcohol use or stress management (Schreurs, Winnubst Cooper, 1996).

Anticipatory socialization is the institutionalization of training programmes that promote a more realistic image of the job (see above) or offer potential employees a 'realistic job preview' (i.e. a recruitment procedure that involves exposing applicants to the reality of the workplace before they are eventually hired).

Communication, decision-making and conflict management: formal top-down communication through periodically issued bulletins, the Internet or plenary meetings is increasingly important in today's large-scale, complex and bureaucratic organisations. Ideally, such communication channels should be embedded in a system of participative decision-making so that employees are involved in making important decisions (Jackson, 1983).

Organizational development (OD) is a programme of planned interventions that should improve the internal operations of an organization. OD is both a methodology and a loose guidance system for helping organizations to make healthy changes. As a methodology, OD follows a stepwise approach, including preparation, data collection, diagnosis and planning, action, evaluation and continuation. As a guidance system, OD includes various techniques, such as survey feedback, training and team development. A central aspect of many OD efforts is participatory action research. This approach involves outside experts (usually researchers) and organization members in a joint process aimed at meeting both research and intervention objectives, such as increasing employees' health and well-being. Typically, this strategy emphasizes participation and

collaboration in which researchers and employees are co-learners in an empowering process.

In Europe, the *institutionalization of occupational health and safety services (OHSSs)* has been facilitated by the introduction of new legislation. OHSSs play an indirect role in reducing job stress in at least three ways: (a) by regularly carrying out stress audits and personal screenings; (b) by offering a specialized individual counselling and rehabilitation service for employees with work-related mental problems; (c) by expert consultation in occupational medicine, safety engineering, human factors and occupational psychology.

Employee assistance programmes (EAPs) are worksite-based programmes to assist in the identification and resolution of productivity problems associated with employees impaired by personal concerns, including health, marital, family, financial, alcohol, drug, legal, emotional, stress or other personal concerns which may adversely affect employee job performance (Lee and Gray, 1994). The ultimate concern of EAPs is with prevention, identification and treating personal problems that adversely affect job performance.

Organizations might offer employees *outplacement services* when it is likely that successful rehabilitation can only be achieved in another job outside the organisation. Usually, outplacement is the outcome of a careful self-analysis and opportunity analysis that is carried out as part of a career development process (see below).

Interventions primarily aimed at the individual/organization interface

This type of intervention seeks to: (a) increase awareness (personal screening); (b) improve individual coping skills (time-management, interpersonal skills training, promoting a realistic image of the job, balancing work and private life); (c) provide emotional and instrumental support at work (peer support groups, coaching and career planning); (d) cure target complaints by intensive treatment (specialized counselling and psychotherapy); (e) rehabilitate employees (individual guidance and assistance).

Personal screening assesses the employee's level of job stress in relation to others in the organization or in the occupation. Basically, similar instruments to those used for a stress audit are employed in personal screening, except that now the focus is on the individual employee.

Time management training teaches the employee to use his or her time efficiently and productively by proper scheduling, planning, prioritizing and delegating duties. It has been successfully included in comprehensive stress management programmes (e.g. Higgins, 1986).

Interpersonal skills training focuses on how to deal with others at work, such as co-workers, customers or clients. Assertiveness (i.e. the ability to respond in a straightforward manner with regard to what one believes, feels and wants) is a key interpersonal skill that is very popular in stress management programmes.

Promoting a realistic image of the job is especially important for avoiding an initial reality shock among novices that might cause early career burnout (Cherniss, 1995). For this purpose, for instance, a mentor system can be used, in which experienced colleagues guide novices.

Balancing work and private life: work and private life can be balanced by setting up clear boundaries between job and home physically as well as psychologically, and by limiting job spillover, pursuing leisure activities that are fun and rewarding and spending time in the company of others.

Peer support groups are groups of co-workers who come together on a more or less regular basis to exchange information, support each other emotionally and try to solve work problems. These groups may vary from loosely organized groups to clearly structured groups that use a specific and systematic approach, such as 'Balint groups' (Rabinowitz, Kusnir and Ribak, 1996).

Coaching and consultation both refer to situations where expert help from a more experienced colleague is offered to employees for (potential) work problems. Consultation pertains to a more or less unique event (e.g. how to deal with a particular customer), whereas coaching designates the process that includes a series of such events (e.g. how to deal with aggressive customers).

Career planning includes two key elements: self-analysis (the assessment of one's strengths, weaknesses, interests and abilities) and opportunity analysis (identification or the range of organizational roles available).

Specialized counselling is offered by professionals such as general practitioners, social workers, counsellors and occupational physicians for employees who are in a temporary crises. *Psychotherapeutic treatment* of job stress is conducted by highly specialized professionals – usually psychiatrists, psychotherapists, or clinical psychologists – who deal with the most complex and severe cases that might include related psychopathology as well (Lowman, 1993).

Guidance and assistance with rehabilitation – the planned return to the previous job after a period of sick leave – should ideally be an integral part of every treatment programme.

Interventions primarily aimed at the individual

Most individual level interventions are well established and have a long and successful history in clinical or health psychology. Principally, individual strategies are aimed towards: (a) increasing the individual's awareness (self-monitoring and didactic stress management); or (b) reducing negative arousal (promoting a healthy lifestyle, cognitive-behavioural techniques and relaxation).

Self-monitoring assumes that by explicitly focusing on the signs and symptoms of distress an individual can increase his or her self-awareness ('know thyself'). A powerful self-monitoring technique is to keep a stress diary, a personal record or log of stress symptoms and related events.

Didactic stress management refers to all kinds of information about job stress that is provided with the intention of increasing awareness and improving self-care. For instance, workbooks are available with tips, tricks and exercises that teach how to deal with job stress (e.g. Fontana, 1989).

Promoting a healthy lifestyle includes the encouragement of regular physical exercise, proper nutrition, weight control, no smoking, enough sleep and periods of rest for relaxation and recharge during the workday and thereafter. Many of these elements are part of corporate fitness and wellness programmes. Of these approaches, physical exercise is perhaps the most powerful antidote to stress (McDonald and Hodgdon, 1991).

Cognitive-behavioural techniques are based on the assumption that cognitions (thoughts) lead to emotions (feelings), which in their turn set in motion specific behaviours (actions). Hence, in order to change emotions or behaviours, cognitions must be altered; for instance, by using cognitive appraisal (putting one's stressful situation into perspective), cognitive rehearsal (learning to tolerate stressors by anticipating) or cognitive restructuring (replacing irrational thoughts and beliefs with more rational cognitions).

Relaxation is considered to be a universal remedy to stress. Therefore, it is the cornerstone of virtually every stress management programme, often in combination with cognitive-behavioural techniques (Murphy, 1996). The goal of relaxation is to teach the aroused individual how to produce voluntarily a positive, alternate physiological response, a state in which he or she deliberately eliminates the undesirable physiological effects of stress.

Chapter Summary

Clearly, job stress is a scientific as well as a social problem. From a scientific point of view it may seem somewhat disappointing that after more than twenty-five years of intensive research a 'grand, unifying theory of job stress' is still not within reach. However, the feasibility of one overarching framework can be seriously questioned, as job demands (stressors) are constantly and rapidly changing owing to social developments. For example, in most industrialized countries there has been a rapid growth of the service sector and a decline of more traditional sectors, such as agriculture and manufacturing. Moreover, new technology has been introduced in both manufacturing and the services, sector, which requires the use of complex cognitive skills such as accuracy and rapid decision-making. As a result of these changes, the nature of job demands (stressors) has shifted from purely physical to mental and emotional demands. This, of course, will have important implications for job stress, and thus for the theoretical models describing it.

Continued

For the time being, each of the four models that has been discussed in this chapter highlights some important aspects of the job stress process. This means that these models are complementary rather than mutually exclusive. So it seems more realistic to pursue an eclectic approach to job stress, in which possible solutions to stress-related problems are derived from one or several models of job stress that best fit the problem at hand.

From a social point of view, reducing job stress is a crucial issue. Unfortunately, the practical applicability of many theoretical models leaves much to be desired. There is still a gap between theoretical knowledge or insight and practical implication. In other words, we do have a lot of tools, but at present we do not have the corresponding operation instructions for real practice. However, despite this shortage, as well as differences in scope, all these models do make it clear that job stress interventions should be targeted primarily on the source of many of the problems, i.e. the stressful working situation. For reasons of 'fine tuning', these work-oriented interventions may be supplemented by measures aimed at the individual worker. As mentioned above, this point of view is also supported by modern labour legislation in many Western countries.

In conclusion, work plays a central part in the lives of many individuals. For that very reason, the serious (human) costs of job stress need to be considered in future decisions on work and employee health.

Discussion Points

- 1 Which perspective on (job) stress (stimulus, response, mediational process) do you find most attractive, and why?
- 2 In what different ways may (a) individual differences and (b) workplace social support play a role in the relationship between job stress and health?
- 3 Which job stress model do you favour, and why?
- 4 What are the two main hypotheses of Karasek's job demand-control model? What is the reason for its popularity in research on job stress and health?
- 5 At what levels may job stress interventions occur? Which seems to be most effective?

Key Studies

Karasek, R. A. (1979) Job demands, job decision latitude and mental strain: implications for job redesign. *Administrative Science Quarterly*, 24, 285-308.

Siegrist, J. (1996) Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1(1), 27-41.

Further Reading

Cooper, C. L. and Payne, R. (eds) (1988) *Causes, Coping and Consequences of Stress at Work*. Chichester: John Wiley & Sons.

Kahn, R. L. and Byosiore, P. (1992) Stress in organizations. In M. D. Dunette and L. M. Hough (eds), *Handbook of Industrial and Organizational Psychology, Volume 3*. (571-650). Palo Alto, CA: Consulting Psychologists Press, pp. 571-650.

House, J. S. (1981) *Work Stress and Social Support*. Reading, MA: Addison-Wesley.

Karasek, R. A. and Theorell, T. (1990) *Healthy Work: Stress, Productivity and the Reconstruction of Working Life*. New York: Basic Books.

Latack, J. C. and Haylovic, S. J. (1992) Coping with job stress: a conceptual evaluation framework for coping measures. *Journal of Organizational Behavior*, 13, 479-508.

Paoli, P. (1997) *Second European Survey on the Work Environment 1995*. Dublin: European Foundation for the Improvement of Living and Working Conditions.

Ross, R. R. and Altmaier, E. M. (1994) *Interventions in Occupational Stress*. London: Sage.

Schabracq, M. J., Winnubst, J. A. M. and Cooper, C. L. (eds) *Handbook of Work and Health Psychology*. Chichester: John Wiley & Sons.

Schaufeli, W. B. and Enzmann, D. U. (1998) *The Burnout Companion to Study and Practice: a Critical Analysis*. London: Taylor & Francis.

Theorell, T. and Karasek, R. A. (1996) Current issues relating to psychosocial job strain and cardiovascular disease research. *Journal of Occupational Health Psychology*, 1(1), 9-26.

Warr, P. (1987) *Work, Unemployment, and Mental Health*. Oxford: Clarendon Press.

Warr, P. (1994) A conceptual framework for the study of work and mental health. *Work and Stress*, 8(2), 84-97.