A Report to the

WORKERS' COMPENSATION AND REHABILITATION COMMISSION

Western Australia

Occupational Stress: Factors that Contribute to its Occurrence and Effective Management

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Project Overview

The Western Australian Workers' Compensation system, like many other jurisdictions, has recently undergone a major review designed to investigate spiraling costs associated with its administration. One area where costs have been found to be particularly high, regardless of the jurisdiction, is the area of occupational stress[1]. The Western Australian review indicated a need to focus on achieving the broad objectives of equity, early return to work and safe workplaces rather than focusing on the causes of increasing costs (Pearson, McCarthy & Guthrie, 1999). However, of all the injury types dealt with through the compensation system, work-related psychological injury (i.e., occupational or work stress) presents the greatest barrier to the achievement of these objectives because the area is plagued by conceptual confusion, practical barriers and delays.

The phenomenon of increasing occupational stress was formally identified in 1989, when the Commonwealth Commission for the Safety, Rehabilitation and Compensation of Commonwealth Employees (Comcare) initiated several research projects. During the subsequent decade, prolific writings have emerged about occupational stress. An abundance of precipitating or exacerbating factors have been identified and a multitude of management programmes have been initiated. During the same period, the percentage increase in claims for work-related psychological injury has been greater than any other injury (Pearson et al., 1999). Although this increase may reflect factors such as changing legislation or increased reporting, the juxtaposition of increasing claims against the increasing level of knowledge is both alarming and counter-intuitive.

Despite the volume of literature that is available about work stress, few definite conclusions can be drawn because of: (1) the elusive nature of 'work stress' as a concept; (2) methodological issues in the identification of contributing factors; (3) inadequate evaluation of management strategies; and (4) failure to consider the continuum from

prevention to return to work as a coherent, single entity rather than dealing with its components separately.

This literature review represents the introductory phase of a multi-part empirical study that will investigate work-related stress from the perspectives of all relevant parties in an attempt to (1) identify key factors which contribute to the phenomenon of work stress; (2) examine the problems and success factors associated with the management of work-related stress claims; and (3) investigate the practices associated with the return to work process for people with psychological conditions. Prior to initiating the empirical studies, there was a need to synthesise the vast array of literature on this topic and draw some relevant conclusions regarding the following critical issues:

1. the definitions, incidence and impact of stress in the workplace;
2. the factors that are believed to contribute to the occurrence of stress and/or a claim for psychological injury or illness [2]; and,
3. the management strategies that are currently adopted in response to occupational stress.

While it is acknowledged that workers who experience stress at work may not proceed to the point of lodging a claim for psychological injury, it is necessary to understand the entire experience of work stress. Consequently, this review will examine issues in relation to the experience of both work-related stress and the lodgement of a claim for psychological injury.

[1] **The terms 'occupational stress', 'work stress', 'job stress' and 'work-related stress' are used interchangeably in the literature and across different jurisdictions.**

[2] **Stress at work is usually referred to as psychological injury or illness. Jurisdictions differ in terms of whether they classify stress as an injury or an illness. In Western Australia, stress is generally considered to be a disease.**

Section 1

Stress in the Workplace

Occupational stress and workplace health have become issues of great concern over the last decade, both internationally and nationally. Given the value of work in this society, the amount of time spent at work and the current changes that are affecting the nature of work, it is not surprising that work stress appears to be increasing (Szymanski, 1999). For instance, as a result of the rapidly changing global economy, organisations now operate in cultures of increased speed, efficiency and competition. Consequently, economic imperatives and the need to retain competitive advantage have resulted in restructuring and uncertainty. For instance, workforces are constantly being downsized, small organisations are merging or being subsumed by larger more competitive organisations, and change is the only constant.

These changes to the nature of work, together with definitional changes in the legislation, have paved the way for an alarming rise in claims that are associated with chronic stress in the workplace. In previous years, stress claims were mostly associated with the experience of a traumatic and/or life threatening event, such as violence, injury or a critical incident of some kind. Occupations most at risk of experiencing these types of events included police and prison officers, medical and paramedical professionals, banking staff, and community care workers (National Institute for Occupational Safety & Health – NIOSH, 1999). In recent years, however, the number of claims has been steadily increasing and the reported cause for these claims has moved away from traumatic stress to chronic conditions (Bull, 1996). This type of stress creates enormous costs, both financially and in human-terms, although the costs are difficult to quantify as a result of misleading statistics, unreported instances, staff turnover and inconsistent recording.

1.1 The Value of Work

Any discussion of work stress must avoid making the impression that work is a psychologically 'dangerous' activity as it is not necessarily inherently stressful. Indeed, the intrinsic value of work to the health and life satisfaction of the worker is well recognised (Probert, 1990). Early philosophers such as Freud and Adler contended that work forms an integral part of basic human existence. In his well-accepted theory of development, Erikson (1950) noted the importance of work to an individual's sense of selfhood. Motivational theorists such as Maslow (1968) have suggested that work does not only fulfill basic needs for security, food or shelter, but also provides a means by which higher level needs, such as need for competence, meaning and social engagement are met.

More recent researchers have shown that work is integrally involved in the process of identity development and self-esteem (see Winefield, Winefield, Tiggemann & Goldney, 1993). Work, therefore, plays a major role in people's lives and wields an important influence on their sense of well-being and identity (Barling, 1990; Feather, 1990). It provides a medium by which people identify themselves in society (Symanski, Ryan, Merz, Trevino & Johnston-Rodriguez, 1996); and can be influenced by economic, societal, cultural and individual factors. As noted by Kielhofner (1995), a person's identity is a function of his or her validated social roles, particularly those associated with occupation. Consequently, the loss of such valued roles can lead to psychological distress and subsequent loss of function.

For many individuals, the loss of work has been associated with extremely negative reactions that include psychological or physiological distress, loss of social contact and suicide (Jahoda, 1979; Keita & Sauter, 1992; Marshall & Hodges, 1981; Winefield, 1995). Many studies, both national and international, have found a relationship between unemployment and a range of measures of poor health. In addition to loss of income, unemployment has been found to lead to a breakdown of social relationships and an increase in stress and anxiety (Junankar, 1991), loneliness and depravation of social

position (Leeflang, Klein-Hesselink & Spruit, 1992), reduced social support, poor health, a higher incidence of handicap and chronic illness (Mackenbach, 1992; Mathers, 1994; Townsend & Davidson, 1992). Meta-analysis of sixteen longitudinal studies into the impact of unemployment on mental health supported the claim that unemployment has a negative effect (Athanasou, 1999).

In addition to reporting higher levels of psychological distress following prolonged periods of unemployment, the majority of unemployed people expressed a strong desire to work (Weiner, Oei & Creed, 1999). The most commonly cited reasons for wanting to work involved psychological and social gains. Clearly, people seek intrinsic rewards from their employment in addition to the traditional extrinsic outcomes (e.g., financial renumeration, promotion, security and status) (Herzberg, Mausner & Snyderman, 1959). Given the importance of work and the total number of hours spent in work by employed people, it is not surprising that it is a potential source and site of significant stress.

1.2 Definitions of Work Stress

It is important to note that not all stress is negative or bad. For instance, in his early work on the topic of stress, Selye (1976) conceptualised two categories, namely good or desirable stress (eustress) and bad or undesirable stress (distress). Eustress is pleasant, or at least challenging, and can produce positive effects such as the maximisation of output and creativity. Ironically, without this positive type of stimuli, life can become stressful. In contrast, distress is evident when a person perceives himself or herself as having no ability to control a stressful event. Distress is likely to result in a loss of productivity and a decline in overall levels of well-being. Although everyone manifests a response to stress, reactions vary widely across individuals. Even at a physiological level, when confronted with a major stressor, some people experience a rapid increase in heart rate while others feel a tightness or knotting in the stomach or tension headaches (Johansson, Cavalini & Pettersson, 1996). Stress is an integral part of everyday life and simply cannot be avoided. People encounter stressful stimuli many times a day in their personal and social domains and, as work is an essential aspect of human existence, in the workplace.

Despite ongoing research and academic interest in the concept of stress, there continues to be a lack of consensus regarding its definition. To complicate this issue, stress is a term that is used in many different ways (Lasky, 1995). For instance, most often in colloquial language, the term 'stress' is used to denote a response or reaction to negative conditions. In empirical literature, this type of stress is usually referred to as strain and represents an outcome variable (Spector & Jex, 1998). The second major use of the term is in relation to the actual demands that are placed on humans. Similarly, the formal dictionary definition of stress is "to put pressure or strain on an object or ... a person" (Macquarie Dictionary, 1982). In an academic context, these demands are usually referred to as stressors. The third use of the term that is most meaningful in such a context refers to stress as a process. This term acknowledges the fact that stress is a multi-faceted concept that occurs in a temporal and dynamic manner; and which is influenced by the interaction of a multitude of contributory factors (Cotton, 1996). For instance, Shirom (1982) defined stress as an individual's perception that environmental demands (stressors) exceed his or her capabilities and resources, thus leading to negative outcomes. Similarly, Selye (1976) described stress as an imbalance between the body's resources and the demands made upon it. The stress process has also been conceptualised as fully recursive and cyclical (Lazarus & Folkman, 1984). Specifically, the psychosocial and physical outcomes of the stress process have the potential to influence future outcomes by becoming additional stressors or by depleting the coping ability and resources that are available to the individual. Consequently, stress is a constantly changing and circular process, a proposition that raises significant implications for research and practice.

In accordance with the 'stress-process' definition, work stress has been described as an incompatibility between the individual and his or her work environment (Humphrey, 1998). A more specific definition was provided by NIOSH (1999), who defined work stress as being the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, or needs of the worker.

Of further interest is the conceptualisation offered by Lazarus (1991) who postulated that occupational stress is a process, involving a transaction between an individual and his or her work environment. The worker's response to work stress can be either psychological, physical or both (Cooper & Cartwright, 1994; Kristensen, 1996; Santos & Cox, 2000), and is usually categorised as being either acute, post traumatic, or chronic.

Acute Stress

The term 'acute' refers to sudden onset. Stress of this nature usually involves a rapid response to an abrupt, single, easily identified cause that will often respond positively to some form of intervention (Guyton, 1981; Schuler, 1980). In an acute stress response situation, a person's arousal state (anxiety) will rise sharply and then start to decline. For example, a person may experience acute stress in response to a negative situation such as abuse, an unexpected bereavement, conflict in the workplace (i.e., being involved in a dispute with a customer or a co-worker), commencing a new position, the introduction of new procedures, or awaiting renewal of a contract. In this acute phase, there is an increased sense of arousal that can produce physiological responses such as a dry mouth, diarrhea, heart palpitations or cognitive problems (Guyton, 1981). For the majority of people who experience an acute stress response, return to 'normal' life within a short time period is expected.

Post Traumatic Stress

When events in the workplace are life-threatening (i.e., as can be experienced among military personnel, police, fire fighters, paramedics, service workers exposed to armed robberies, or workers involved in large-scale disasters and accidents), a more ongoing form of stress response can develop, namely post traumatic stress disorder (PTSD) (Anshel, 2000; Humphrey, 1998; Paton, 1999; Pflanz, 1999). Post-traumatic stress disorder develops as a delayed and/or deferred response to an acute stressful event or situation (either short or long lasting). This event usually has a particularly threatening or catastrophic nature, with the potential to cause pervasive distress in almost anyone

(World Health Organisation - WHO, 1992). This stress response is usually unremitting. Anxiety and depression are often associated with PTSD, and suicidal ideation is not infrequent. Other commonly cited co-morbidity conditions arising from PTSD include panic disorder, anti-social personality disorder, substance abuse and agoraphobia (Green, Lindy, Grace, Leonard, 1992; Keane & Wolf, 1990; WHO, 1992).

In simple terms, PTSD develops following stressors of traumatic intensity. These traumatic events are likely to include, but are not limited to, torture, sexual abuse/rape, a serious life-threatening accident, combat, human-made disasters, or the witnessing of a violent act (Alzono, 2000; Humphrey, 1998). According to Koopman, Classen, and Spiegel (1994) and Tomb (1994), PTSD can be considered present if subsequent events trigger intrusive distressing recollections. It can also be considered if the individual experiences repeated dreams about the event, a numbing of responses, avoidance of activities or situations reminiscent of the trauma, and sensitivity to stimuli of the original traumatic event. It is important to note that according to current diagnostic guidelines (American Psychological Association - APA, 1994), PTSD is not usually diagnosed unless there is evidence that it has developed within six months of a traumatic event of exceptional severity. However, a diagnosis may be possible if the delay between the event and the onset was longer than six months, provided no alternative diagnosis (i.e., anxiety, depressive episode or obsessive-compulsive disorder) is likely and the clinical manifestations are typical of PTSD (e.g., intrusive recollections, dreams, sensitivity to stimuli) (WHO, 1992).

Chronic Stress

Unlike the major events that are thought to precipitate acute stress or post-traumatic stress disorder, chronic stress is a cumulative reaction to a build-up of pressures over a long period of time. This type of response tends to begin gradually and proceed slowly. Chronic stress is best defined as an ongoing internal reaction to external circumstances when the ability to cope with those circumstances is impeded (Evoy, 1998). Unlike acute stress where a return to normality is expected within a fairly short period of time, chronic

stress usually manifests itself in various ongoing physical and/or psychological symptoms such as hypertension, sleep disturbances, coronary heart disease, stroke, poor concentration, withdrawal and depression (Cooper & Payne, 1988; Minter, 1999). Moreover, chronic stress may, over time, lead to a weakening of the immune system. Indeed, it is not unusual for a person to experience prolonged symptoms of illness but be unaware that chronic stress is the cause (Guyton, 1981).

In recent years, there has been a recognition of the fact that cumulative adversity can be equally important as acute traumatic incidents in the development of stress-related conditions (Alonzo, 2000). This conclusion supports the early findings of Lazarus and his colleagues (1977) that 'daily hassles' were more powerful predictors of poor mental health than significant life events. The ongoing occurrence of irritating or frustrating demands wears down or overwhelms an individual's coping capacity. While there is little doubt as to what constitutes an acute traumatic stressor, these chronic work characteristics are more difficult to define, creating significant problems for management and research.

1.3 The Impact of Work Stress

Over the last decade, the escalating costs associated with workplace stress indicate an international trend among industrial countries (Karasek & Theorell, 1990; Shergold, 1995). For instance, in the United States the number of stress claims has trebled in the last year with 15 percent of all workers compensation claims being for stress. The cost to organisations of this level of occupational stress lies anywhere between 200 and 300 billion dollars per year as a result of high staff turnover, increased health and workers' compensation claims and decreased productivity (Wojcik, 1999). In addition, recent figures emanating from Britain have indicated that approximately 70,000 workers are absent from work due to occupational stress every year (McKee, 1996), costing the nation around seven billion pounds in lost productivity, worker entitlements and health care. A subsequent result of these factors is the loss of 40 million working days per year (Shergold, 1995).

Hodgson, Jones, Elliott and Osman (1993) reported that in the one year, 5.9 percent of workers surveyed in England and Wales recorded having an illness that was caused or made worse by work. Almost 14 percent of the population reported they had suffered work stress or depression in the previous year. Three occupational groups showed raised rates of stress, namely teachers, welfare workers and other health professionals. The stress rate among teachers was particularly marked, being over four times the average.

The Canadian Compensation Board (1996) found that 60 percent of Canadian workers 'felt negative stress in the workplace', and 80 per cent of this group stated that stress was adversely affecting their job performance and health. Workers between the ages of 25 and 44 years, as well as managerial and professional employees were identified as the groups that tended to be more likely to lodge a stress claim. In another study conducted by the Northwest Life Insurance Company (1991) in America, 35 percent of those interviewed said that their job was extremely or very stressful and 26 percent said that their job was the greatest stressor in their life. This study also found that the incidence of stress-related disabilities had doubled from 6 percent to 13 percent between 1982 and 1991.

In line with these trends, Australia has also witnessed a significant rise in reports of occupational stress, in both the private and public sectors. Indeed, one of the most visible costs of occupational stress is that associated with workers' compensation claims (Toohey, 1993). Although a relatively limited number of claims are related to workers who experience occupational stress, the cost of returning these individuals to the workplace is considerable. This cost is mostly associated with the delay of lodgement and/or acceptance of claims, compounded by the potential chronicity of the condition (Kenny, 1998; Toohey, 1993). Other factors that can increase the cost of stress claims include the likelihood of misdiagnosis and the negative perception of key stakeholders such as employers, co-workers, and rehabilitation providers that hinder appropriate treatment (Kenny, 1995a; Kenny, Kable, Kroon, Quinn & Edwards, 1999).

In his review of the Commonwealth compensation system during the year 1991-1992, Toohey (1993) revealed that only 4 percent of claims were stress-related, but accounted for 18 percent of the costs of overall claims for that year. Similarly, recent research relating to workers' compensation claims in Western Australia revealed that 2.2 percent of overall lost-time claims were lodged for occupational stress, and these claims accounted for an excessive amount of claim-related costs (WorkCover WA, 1999). Trends showed that there has been a decrease in the number of stress claims for which liability had been accepted in the Western Australian system. Indeed, between the period 1998 to 1999, although the percentage of stress claims remained constant (i.e., approximately nine percent of all claims received), there was a notable decline in acceptance of claims. Of the 713 occupational stress claims lodged in Western Australia during this period, only 221 were accepted (30.9 percent). Similar trends have been found in Commonwealth and other State compensation systems, whereby there has been an increase in claims lodged but a reduced rate of acceptance. Further, other jurisdictions have also found that the small percentage of accepted stress claims tend to be accompanied by high costs.

In researching the costs associated with workplace injuries, the direct costs, including weekly payments, medical and rehabilitation costs can be calculated readily. However, the indirect costs of workers compensation are estimated to be between four to eight times greater than the direct costs (CCH Australia, 1990). Indirect costs for workplace injuries for employers include increased insurance premiums, lost productivity time, additional labour costs for a replacement worker and costs involved in administering the claim. Furthermore, as the CCH Australia report described, workplace injuries ultimately impact on the community through the effect they have on family, unemployment, loss of prospects for further career development and the potential to create a general decline in quality of life (Foley, Gale & Gavenlock, 1995; Kelly, 1995; Sarantakos, 1996).

There is evidence that the incidence of stress in the workplace is greater than indicated by available statistics, not only because of the inadequacy of the statistics but also because

these claims only represent a small proportion of the actual incidence of work stress. For example, data from the United States showed that the percentage of the general population that develops a psychological disorder in any year is between 28 and 30 percent and that, in the workplace, the incidence could be as high as 18 to 20 percent of employees (Cotton & Jackson, 1996). Recent research in Australia has indicated that while over one in four workers had taken leave for stress, only four percent had claimed workers' compensation (The Australian Council of Trade Unions - ACTU, 1998). Justification in workers' reluctance to report stress at work include "fear of retribution and difficulty in gaining acceptance from employers and medical practitioners that stress at work is a legitimate explanation for ill health…they are unwilling to claim workers' compensation" (ACTU, 1998, p. 23). The associated stigma of acquiring a mental health condition may also negatively impact on the lodgement of a workers compensation claim for stress.

Many workers may suffer from occupational stress for some time without reporting it to their employers or claiming for occupational stress through the workers compensation system. A study conducted by McKenna (1996) showed that 42 percent of workers who participated in the study had taken leave from work during the past 12 months due to stress. Most leave was taken as sick leave and only five percent claimed workers' compensation. Research has also uncovered the possibility that many workers do not report their 'injury' until the situation and the injury have become very serious and, therefore, difficult to treat and rectify. For instance, Douglas and Bain (1996) found that the prevalence of work stress did not equate with the frequency of claims for psychological injury. They associated this discrepancy with several factors, particularly highlighting organisational deterrents and access to information about entitlements.

Over the last decade occupational stress, regardless of whether a claim has been lodged or not, has become an issue of great concern. Where workplace matters once focused on the safety issues of physical working conditions (such as hazardous materials, noise, cleanliness, lighting and physical work overload), concern is now concentrated on the

escalation of complaints relating to psychological pressures (Ivanevich, Matteson, Freedman & Phillips, 1990; Toohey, 1995; Vagg & Spielberger, 1998). Several studies have linked stress in the workplace to such factors as increased absenteeism (Cooper & Cartwright, 1994), poor work performance (Kohler & Kamp, 1992), health problems and staff turnover (Cooper, 1986; Farrington, 1995; Guppy & Gutteridge, 1991; Kalimo & Vuori, 1991). A recent study that examined the effects of stress on allied health professionals, found that high levels of stress were associated with depression, anxiety, sick leave and propensity to leave (Quine, 1998).

Several studies over the last fifteen years have provided support for the involvement of stress as a risk factor in the aetiology of illness and disease (Cooper & Cartwright, 1994: Lazarus and Folkman, 1984; Quick, Quick, Nelson & Hurrell, 1997). Indeed, Guyton (1981) postulated that a person who experiences long term or chronic stress may potentially experience such debilitating illnesses as hypertension, coronary heart disease, stroke or peptic ulcer. Moreover, Humphrey (1998) in a recent review of the medical literature, found that prolonged and unyielding nervous tension developing from psychological stress, can result in psychosomatic disorders which can lead to serious diseases. These include cirrhosis of the liver, high blood pressure, cancer and heart disease.

Clearly, unresolved stressful situations keep a body in a constant state of activation and increase the likelihood of 'wear and tear' to biological systems. Fatigue results as a compromise in the body's ability to defend itself; and an increased risk of illness, injury and disease have all been found to escalate with stress (National Institute of Stress and Health - NISH, 1999). Stress is therefore held to be causally responsible for a vast and varied range of negative health outcomes that not only affect the individual, but also the employer and society in general. These outcomes contribute to the hidden costs of stress in the workplace that are difficult, if not impossible, to quantify.

Section 2

The Work Stress Process

To fully understand the phenomenon of work stress, it is necessary first to document the process that most commonly occurs for workers in this situation. The model shown in Figure 1 has been developed to depict the most negative scenario or trajectory that could be expected for an individual who is experiencing work stress. The personal experience of work stress at the level of the individual worker is represented by the solid line. Highlighted in bold and arrowed boxes in the model are the factors (i.e., points, pressures and events) that are likely to contribute to the stress process from the time the individual enters an employment relationship. Although not represented in the model, it is assumed that individuals could exit the employment relationship at any time. However, assuming they do not exit, there will be significant points of pressure on that relationship, represented by small circles.

The model also represents the three major phases of management, namely primary, secondary and tertiary, and assumes that changes in the management of work stress at any point in the process could shift the trajectory to a more positive direction. For instance, primary prevention strategies implemented early in the development of a new employment relationship could prevent the experience of stress and, thus, prevent the decline in performance. Similarly, a decline in performance, if managed successfully at the secondary stage, need not continue to a point of disengagement and appropriate tertiary management could enable a worker to return to the workplace effectively.

This review will focus on the work stress process, as depicted in the model. The factors that contribute to the stress process will be examined in more detail and the management strategies that are most commonly implemented at each stage of the model will be outlined. Prior to examining these factors, the work stress process depicted in the model will be described fully.

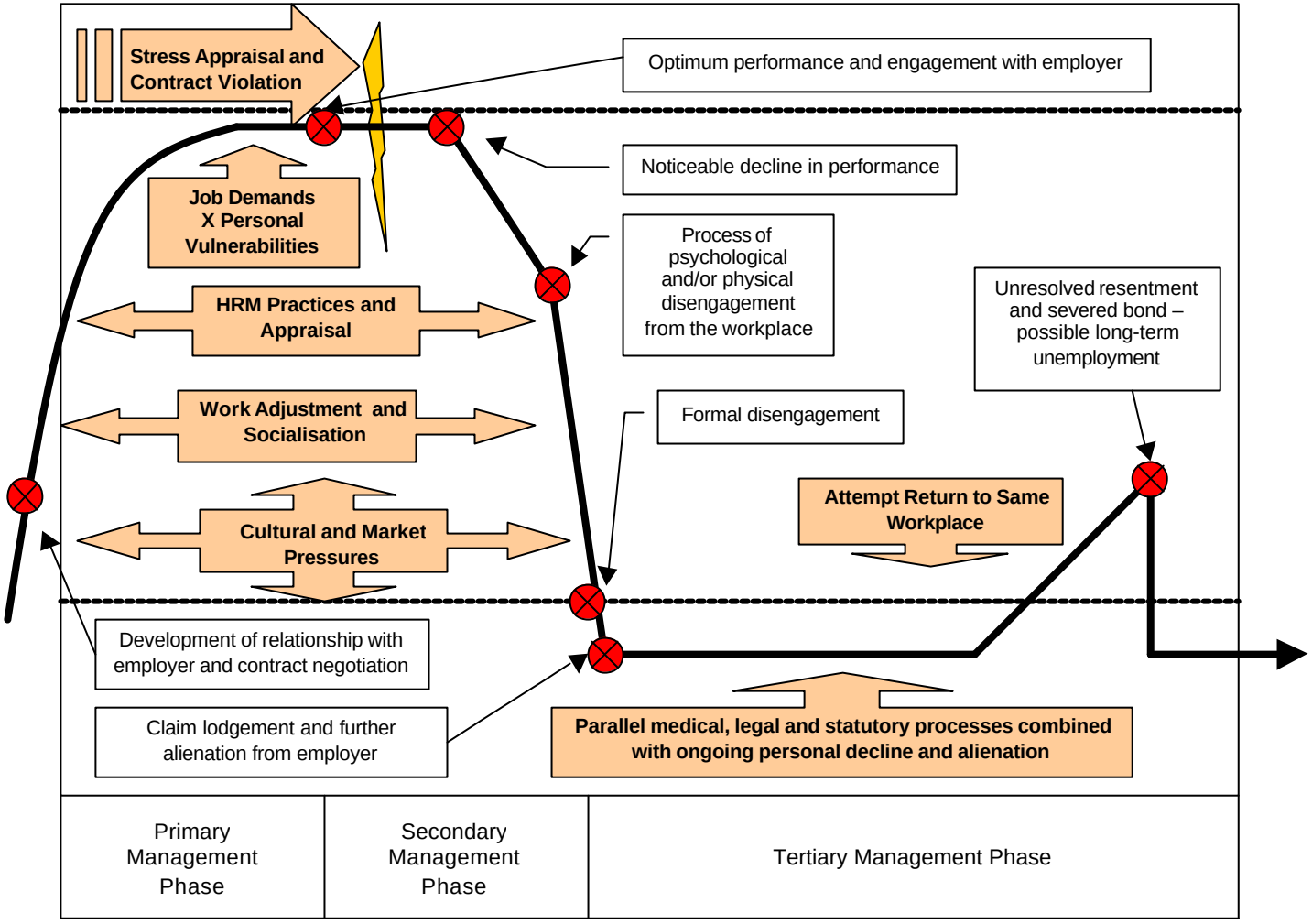

Figure 1. The Work-related Stress Process: A Model of the Negative Trajectory

Any movement into employment involves a match between an employer or organisation and an employee. As many researchers have agreed, both the job itself and the person, bring vulnerabilities and characteristics that contribute to the stress process (Kenny, 2000). For instance, research has clearly acknowledged the fact that some individuals have a predisposition towards negative thinking or affect, have fewer coping resources than others or an inability to utilise effective coping strategies (Netmeyer, 2000). Section 3.1 will outline the most common vulnerabilities and risk factors that have been identified in workers.

Although vulnerabilities are important, there is a growing presence of people in the workforce who already have a psychiatric condition or have experienced psychological difficulties in the past. Any attempt to manage and eliminate the 'risk' of psychological injury by screening employees for vulnerability will impact negatively on the humanistic movement towards fairer and more equitable employment practices. Rather than screening for vulnerability and focussing negatively on workers, it is important to understand the demands associated with particular jobs, in an effort to ensure that those demands are reasonable. Although jobs differ in the level of demand they place on individuals, research has identified a set of reasonably common pressures, role difficulties, conditions and negative events that are likely to contribute to the stress process. The specific characteristics of jobs that contribute to stress will be discussed in Section 3.2.

It is important to note that irrespective of the demands of particular jobs, stress seems to have become an inevitable part of working life in the current labour market. Trends in the global economy have altered the way in which the employee-employer relationship is defined and have escalated the demands placed on both parties. Many of these forces are unchangeable and non-negotiable. These broad influences have been labelled the organisational climate and will be discussed in Section 3.3.

Rather than focussing on either the worker or the job, most contemporary organisational theories have acknowledged Lewin's (1952) proposition that behaviour is a function of both factors. Stress cannot be attributed to the vulnerabilities of the person or the demands of the job/environment independent of each other. Instead, stress results from the degree to which the two fail to 'fit' together (Blau, 1981). The fit between the person and the environment can depend on how well the individual's skills and abilities match the practical job demands and requirements, or how well the individual's psychological and social needs are matched by the job environment. The greater the discrepancy, the greater the likelihood of work stress (Lofquist & Dawis, 1969). Researchers have questioned the notion that perfect fit is associated with the absence of work stress and clearly, this is unlikely (Dollard, 1996). Indeed, as will be discussed in the Section 3.4 highly stressful work can be offset by the fact that some workers derive satisfaction from challenge, risk or change. Without these qualities, the person-environment fit would be deficient (Dollard, 1996).

While the interaction between the worker and the job is an integral component of the work stress process, this interaction occurs in the strong socialising context of work. Over time, this context transforms newcomers into participating and effective -- or ineffective -- members of that work-culture. As will be discussed in Section 3.5, particular work cultures and socialisation processes are likely to encourage specific definitions, interpretations and responses to stress. In addition, certain types of workplace practices, coping strategies or vulnerabilities may be associated with different cultures. The process of socialisation itself is considered to be stressful, particularly during the first nine months or so when workers are attempting to define the expectations of their workplace (Nelson, 1987). In many cases, the expectations that accompany the culture may be unreasonable or conveyed in such a subtle manner that workers can only learn by trial and error, leaving them vulnerable to costly repercussions when cultural norms are inadvertently violated. According to Nelson (1987), socialisation failures leave new workers feeling alienated and stressed. In contrast, those who have been 'well-socialised' may be less likely to experience stress in response to unreasonable demands

of the job. An even more negative outcome of socialisation is the possibility that workers may become either less or more likely to report stress, irrespective of their experience, depending on the requirements of the work-culture.

Socialisation is not a one-way process (Kielhofner, 1995). Indeed, socialisation is usually accompanied by a process of 'contracting' and relationship-building that occurs between employees and employers. During this process of contracting, an individual who fills a new role will negotiate with his or her employer and may shape the work environment as much as the environment shapes its workers (Swanson & Fouad, 1999). Employment is a reciprocal relationship - both at the practical level and at the psychological level (Jones, Flynn & Kelloway, 1995). At the practical level, employees simply exchange labour for remuneration -- an exchange that is often governed by a physical employment contract. However, at the psychological level, employees offer commitment to an organisation in return for perceived support from that employer. In the optimum employment relationship, this psychological contract will be flexible in response to changes in the employment context. Stress-related difficulties are most likely to occur when violations of the psychological contract are seen as deliberate. In this case, one party is perceived as having been able to keep the implicit commitment but not having done so, either due to self-serving actions or negligence. When a violation of contract is perceived to have occurred, individuals will interpret their situation and seek to understand the meaning of their loss. This subjective interpretation or appraisal of the situation forms the centre of most theories of work stress (e.g., Lazarus & Folkman, 1984). Section 3.6 will discuss the significance of these subjective issues.

Once the loss associated with a contract violation has been appraised as being stressful, the bond between the worker and the employer is likely to begin deteriorating. Ironically, the relationship between workers and employers is further damaged by the responses that are often instigated when the symptoms of stress become evident (i.e., human resource management strategies such as performance appraisal). These processes can alienate the worker from his or her workplace as will be discussed in Section 3.7. As the worker

moves further away from the important role of worker, the social relationships and supports that accompany that role deteriorate (Keilhofner, 1995).

At some point in this process, the worker's condition becomes a medical and/or legal problem as well as an organisational problem. Cotton (1996) suggested that the entire work stress process tends to be 'over-medicalised' and is more appropriately managed in the workplace than by medical practitioners. Specifically, he concluded that many people are not well suited to their occupational choice, and that problems arising from this mismatch (including stress) should not become medicalised and legalised under the compensation system. The medicalisation process is likely to introduce third parties into the already disrupted relationship between the worker and his or her work place. Higgins (1996) warned that it is the responsibility of this 'third party' (i.e., the medical practitioner) to ensure that the medical certificate is not used as a "device to shift the focus from a management issue to a medical problem" (p. 61).

If a claim for psychological injury is lodged, the period for which the individual is without a functional role or relationship with an employer, is extended markedly. Indeed, at this stage the relationship with the employer can become hostile, or at least oppositional and adversarial. This situation places both the worker and the employer in 'victim' roles, having to prove their argument and defend their position. More players enter into the relationship and the likelihood of resolution is minimised. The work stress process becomes a legal and statutory process that is poorly understood by both workers and their employers, leading to increased stress. The concurrent medical, legal and statutory processes can exacerbate psychological conditions and obscure the impact of work stress on the injured worker, thus inhibiting recovery. The issues associated with this environment are discussed in Section 3.8.

Keilhofner (1995) noted that if the employer-employee relationship is not restored quickly or, at least replaced, the long-term outcome for the worker is likely to be negative. In cases of work stress, the loss of work-related roles and relationships has the

potential to exacerbate the psychological condition of the worker, thus complicating the diagnosis and management of work-related injury. While this process represents a similar experience to that associated with most work-related injuries, the weakening of the bond between employer and employee represents a particular problem in cases of occupational stress as the bond is likely to have already deteriorated significantly prior to the formal recognition of injury. A major implication of the formal medical, statutory and legal processes used to manage work-related injury is that no new roles or relationships are developed for some time. Thus, rehabilitation practices are likely to confront significant challenges that could be avoided. Further, vocational rehabilitation usually involves graduated return to the workplace, preferably the existing workplace. However, in cases of work stress, return to the workplace represents a return to the factors that precipitated the work stress process initially. As a result of the focus on the worker during medical, statutory, legal and rehabilitation practices, it is unlikely that the workplace will have significantly altered. This situation leaves the worker vulnerable to repeated psychological injury, but with less resilience and the added stigma of a mental health condition. These rehabilitation issues are discussed in Section 3.9.

In terms of the management of stress, the model depicted in Figure 1 clearly shows three major phases at which management strategies can be implemented. At a primary prevention level, management of stress has involved the development of occupational health and safety legislation in an attempt to create 'healthy organisations'. The most common method of management, however, occurs at the secondary level, once stress has been identified. These strategies include interventions such as Employee Assistance Programmes and psychological counselling. Tertiary management begins once stress, and its symptoms, have been identified as a 'condition'. At this stage, workers are usually managed individually though medical or psychiatric interventions. When, or if, a claim for compensation is lodged, management becomes a statutory and legal task that can differ across the various jurisdictions. Significant complications arise as a result of these statutory and legal management systems as they profoundly alter the nature of the relationship between employers and employees. Often it is only when the administration

of a claim has been finalised, that workers move into a 'return-to-work' phase. At this point, they must change the mindset that has developed during prior phases (i.e., medicalisation and legalisation) and must now willingly attempt to return to either the existing workplace or a new position. The management strategy that most commonly guides rehabilitation is case management and/or injury management.

If managed well, the injury management and vocational rehabilitation process has the potential to create a cyclical effect in that the experiences of both rehabilitated employees and employers will influence the manner in which they manage the workplace in future. Unfortunately, however, each phase of work stress management appears to be unconnected to other phases. Management of the work stress process could be defined as a series of 'bandaids', each needing to be slightly larger than the one before as problems and issues have become ingrained in previous stages.

The final sections of this review will examine the methodological issues that plague research in this area and should be addressed in any further research. The review will provide guidance for the development of proposals for further research that can address these methodological problems, while providing a sound basis for recommendations about the management of work stress. The purpose of the empirical studies that will follow this review will be to identify ways in which the work stress management process can be improved to prevent negative trajectories such as that outlined in this Section.

Section 3

Causative And Exacerbatory Factors

As suggested by the model described in Section 2, there are several points in the work stress process at which causative or exacerbatory factors could be identified. In particular, movement along the trajectory could be associated with factors such as:

- Personal vulnerabilities;
- Characteristics of the job;
- Organisational climate;
- Congruence between the person and the environment;
- Perceptions and appraisal by the worker;
- Culture and socialisation processes;
- Human resource management practices;
- The medical, statutory and legal processes; and
- Injury management and return-to-work practices.

Each of these causative and exacerbatory factors will be discussed in more detail below.

3.1 Personal Vulnerability to Stress

Specific personal characteristics appear to affect the degree to which particular events or conditions are perceived as being stressful (Ganster & Schaubroeck, 1991; Kobasa, 1979; Perlin & Schooler, 1978; Watson & Pennebaker, 1989). Since the 1940s, a massive volume of research has identified an infinite list of personal variables that are likely to contribute to the experience of stress. These factors are assumed to be associated with a greater likelihood that individuals will experience stress, be unable to manage stressful demands, take longer to recover from the effects of stress, or suffer negative outcomes as

a consequence of stress. It has also been claimed that such factors may even increase individuals' susceptibility to events that result in negative experiences or emotions (George, 1992). The factors that have been identified include ingrained personality variables, cognitive, behavioural or affective response styles, and access to practical or emotional resources. This section will review the most commonly cited factors considered to be associated with increased stress at work.

Personality Factors

According to Cotton (1995), there cannot be a 'work-caused' personality disorder. He stated that workplace factors may aggravate a pre-existing personality disorder or accelerate its manifestation, but not cause it. Further, some personality conditions may be associated with episodic reductions in personal and vocational functioning, irrespective of current employment conditions. In some cases, the personality disorder itself may be a factor in the generation of stressful employment conditions, such as interpersonal conflict with colleagues and supervisors. This conflict may inaccurately appear to be causally related to the onset of stress symptoms in the individual. In this regard, Cotton found that among claimants reviewed for 'fitness for continued duties', there were several undiagnosed personality conditions that were likely to have precipitated long-term, but low level, interpersonal and vocational difficulties for those claimants.

Negative Affectivity

There is a fairly consistent finding that some individuals exhibit a general tendency towards negative responses irrespective of the type of stimuli experienced in their environment. This general tendency, called negative affectivity (NA), was identified in early research conducted on personality psychology (Watson & Clark, 1984) and refers to a "broad range of aversive mood states including anger, disgust, guilt, fearfulness and depression" (Watson & Pennebaker, 1989, p. 234-5). NA is believed to be a stable disposition towards a negative mood-state that permeates much of the individual's

attitude and behaviour towards events, oneself and others, regardless of the situation (Watson & Clark, 1984). Researchers have proposed three mechanisms that underlie the relationship between NA and stress. These are: a) a predisposition to interpret situations negatively (Watson & Clarke, 1984); b) an increased tendency to selectively process information that emphasises negative aspects of a particular situation (Necowitz & Roznowski, 1994); and c) a decreased tendency to actively control the environment (George, 1989; Judge, 1993).

According to Watson Pennebaker and Folger (1987), individuals with high NA are capable of experiencing a great deal of stress and discomfort, even in relatively innocuous contexts and their perception of stress is likely to persist even if negative working conditions are altered dramatically. This trait is likely to influence how individuals experience their environment as well as how they perceive their own well-being. As such, NA has been thought to account for many relationships that emerge between self-reported events and subjective well-being (Brief, Burke, George, Robinson & Webster, 1983). Long-term psychological stress may be confused with NA because it is highly related to measures of depressive symptoms (Brief et al., 1983) and may also influence an individual's evaluation of perceived stress (Watson & Pennebaker, 1989). Indeed, researchers have found that NA is inherently confounded with typical measures of stress -- both work and non-work. As a result, the presence of NA is likely to result in artificially inflated correlations between stress and outcome (Brief et al., 1983). In fact, researchers have found that NA could account for much of the relationship between work stress and burnout (Brief et al. 1983) and may be the construct that underlies both perceptions of stress symptoms and negative mood (Watson et al., 1987). Consequently, NA is an important factor for consideration in relation to an individual's work-related stress.

In a study of first level managers, Parasurman and Cleek (1984) reported that NA increased the dissatisfaction associated with role overload. Despite the fact that only a few of the interactions tested in this study were found to be significant, NA showed direct

effects with perceived stress and job satisfaction. The researchers concluded that such findings demonstrate the importance of prior susceptibility in influencing stress reactions. Further, Parkes (1990) found an interaction effect between NA and work demands in the prediction of mental strain in trainee teachers. However, NA did not moderate the work support-outcome relationship, prompting the interpretation that only impersonal quantitative stressors, such as work load, rather than interpersonal forms of stress, such as lack of support from colleagues and peers, are affected by an NA bias. Overall, the evidence is more supportive of NA having a direct effect, rather than a moderating effect, on work stress.

Cognitive Distortions and Negative Thinking Patterns

Cognitive theorists have postulated that a range of 'thinking' patterns are likely to impact on whether or not individuals experience stress in the workplace. Well-known researchers in this area (e.g., Beck, 1984; Ellis, 1962) have identified patterns that occur regularly amongst those who experience difficulty coping with life demands. Specifically, individuals whose interpretations of events are characterised by over-generalisation, pessimism, extreme or dichotomous views, catastrophising, the attribution of blame and rigid or inflexible ideas are most at risk of experiencing stress. These patterns are responsible for the onset of significant depression and distress (Beck, 1984; Seligman, 1994).

The work of Rotter (1966, 1982) and Seligman (1994) added an important dimension to this research. Specifically, these researchers identified the importance of the patterns with which individuals interpreted their ability to control their circumstances. Rotter noted that some individuals tend to consistently interpret their circumstances as being controlled by external forces. This external locus of control (Rotter, 1966, 1982) has been linked to negative outcomes following events, lowered performance and ongoing depression (Hiroto, 1974; Rotter, 1982; Seligman, 1994).

Further, when faced with similar stressful situations, individuals with an external locus of control are less likely than individuals with internal locus of control to believe that they have a significant effect on outcomes. People with an internal locus of control are more likely than those with an external locus of control to take charge of the event and act to re-negotiate their situation. Those with an externals locus of control, however, are likely to be passive and defensive, feel helpless in stressful situations and experience stress (Anderson, Hellriegel & Slocum, 1977; Gemmill & Heisler, 1972). Finally, those with an internal locus of control are more likely to attribute positive and negative organisational outcomes to their own actions and, cope better with higher levels of stress. This leads to lower incidence of sickness, and hence, lower absenteeism (Robbins, Marsh, Cacioppe & Millett, 1994).

Psychological Hardiness

In contrast to negative affectivity and pessimism, 'hardiness' is a term given to a particular cluster of personality characteristics that have been identified among people who appear to cope well with stress (Kobasa, 1979). Hardy individuals believe they can influence their environment, are deeply involved in or committed to the activities of their life, and view change as a challenge (Rosenweig & Kast, 1984). In fact, psychological hardiness has been shown to moderate the stress-strain relationship and people with high levels of these three qualities have been found to be resistant to the deleterious effects of stress (Kobasa, 1979).

A central characteristic of hardy individuals is their capacity to perceive stressful situations as challenging instead of threatening or overwhelming. Research has found that this individual difference variable significantly moderates the stress-strain relationship. For example, in a study of middle to upper class businessmen, Kobasa (1979) found that executives who experienced highly stressful events and who displayed hardiness recorded significantly less illness than those without hardiness. Similarly, a longitudinal study found that hardy workers showed smaller increases in blood pressure and serum triglycerides in response to increasing role ambiguity (Howard, Cunningham

& Rechnitzer, 1986). Further, Manning, Williams and Wolfe (1988) found a direct, rather than moderating role, of hardiness in that hardy individuals reported higher levels of job satisfaction, fewer somatic complaints, less depression and less anxiety compared to non-hardy individuals. It would seem, therefore, that hardy individuals seek ways to gain control and tend to view their situation more optimistically than non-hardy individuals and are, therefore, less likely to perceive the existence of work-related stress.

It is important to note that these personal vulnerability factors are not static and can vary in the individual across time and context. For example, individual determination together with support and assistance from management can aid an individual to take more control over their work events. Further, organisations can assist employees by structuring rewards and recognition for individual initiatives and performance in order to help them to move towards a more internal orientation (Robbins et al., 1994).

Coping Style

The ways in which individuals cope with stress is thought to have a significant impact on outcome, presumably because it enables individuals to execute some control over the demands that are placed on them (Diamond, 1990). In defining the ways of coping, Lazarus and Folkman (1984) identified two broad types of coping strategies, namely, problem-focused coping and emotion-focused coping. The primary aim of problem-focused coping is to confront the event, either by altering the situation (environment-directed) or by acquiring necessary information, skills or assistance (self-directed). In contrast, emotion-focused coping is a palliative response that aims to eliminate negative emotional reactions to the event. Emotion-focused strategies usually involve attempts to avoid the negative emotions associated with a problem situation through strategies such as suppression, wishful thinking or distraction.

Researchers have proposed that a third group of coping responses can be identified, namely perception-focused coping (Pearlin & Schooler, 1978). This group can include strategies such as positive re-appraisal, minimisation or seeking meaning (Parry, 1990),

and generally involve attempts to minimise the threat associated with a problem, redefining the problem or redirecting attention to a different aspect of the situation. The characteristic that appears to differentiate these strategies from emotion-focused and problem-focused coping is that they tend to focus on cognitions and perceptions rather than on emotions or behaviours (Holohan & Moos, 1983).

Coping research has become fairly sophisticated over recent years (Lazarus, 1993). Researchers are examining the possibility that specific types of coping strategies are most effective in response to particular situations and conditions. Although the findings are still inconclusive in relation to this goodness-of-fit hypothesis, it is generally accepted that coping skills are an asset for most people. Nevertheless, there is some evidence that negative consequences are associated with the use of maladaptive coping strategies, namely drinking and smoking, avoidance and suppression (Sulsky & Smith, 1999).

Inadequate Personal or Environmental Resources

According to some research findings, access to sufficient personal or environmental resources should mediate the relationship between stressors and outcome by encouraging individuals to interpret their circumstances positively and implement successful coping strategies. However, researchers have found multiple functions for resources, suggesting that the means by which they influence outcome following stress is unclear. For instance, some researchers have found that resources, or lack of resources, have a direct impact on outcome (Norris & Murrel, 1987). In this case, resources appear to have a 'symptom-damper' effect, in that individuals with more resources tend to experience better outcomes than those with low resources, irrespective of the existence of stress. In contrast, other researchers have found that resources act as 'stress-buffers' by eliminating the negative relationship between stress and outcome (Cohen & Edwards, 1988). The stress-buffer or moderator hypothesis suggests that resources reduce individuals' susceptibility to stress-related pathology and protect them from its deleterious impact. Thus, those with high levels of resources experience less intense reactions to stress or

recover from the negative impact of stress more quickly than those with fewer resources (Stroebe, Stroebe, Abakoumkin & Schut, 1996).

Personal resources have been defined as the relatively stable characteristics that enable some individuals to resist the deleterious effects of stress and adjust effortlessly across a range of situations (Menaghen, 1983). Although the stress and adjustment literature is replete with studies demonstrating the beneficial effect of personal resources on well-being, the most commonly cited resource is self-esteem. Self-esteem is usually considered to reflect the extent to which individuals believe themselves to be capable, successful and worthy (Kivimaki & Kalimo, 1996). It is widely recognised that individuals who have positive beliefs about themselves and their abilities are more likely to demonstrate successful outcomes following a stressful life event than individuals who have negative beliefs (Cohen & Edwards, 1988; Holohan & Moos, 1985; Terry, 1991). Indeed, evidence has supported the important role of self-esteem as a predictor of well-being (Ellsworth, 1995), especially in the emotional and behavioural domains (Leary, Schreindorfer & Haupt, 1995).

However, the specific mechanism by which self-esteem is associated with positive outcomes is unclear (Greenberg et al., 1992). Several researchers have speculated that high self-esteem protects individuals from the threats associated with stressful events because they are more likely to seek positive information about themselves and their situation (see Kernis, Cornell, Sun, Berry & Harlow, 1993). Specifically, it has been found that individuals with high self-esteem tend to overestimate their abilities (Smith, Norrell & Saint, 1996) and can hold unrealistic views about the degree of control they have over situations (Taylor & Brown, 1988).

In addition to personal resources, aspects of the environment are likely to represent valuable coping resources for individuals who are confronting major life events. In this respect, an extensive body of research has corroborated the importance of social support for psychosocial well-being following a life crisis (see Kessler, Price, & Wortman, 1985).

Social support is defined as the existence or availability of people on whom the individual can rely and who are a source of self-validation (Sarason, Levine, Basham & Sarason, 1983). Thoits (1986) took this definition further and conceptualised social support as coping assistance because it supplements coping efforts, whether they are focused on emotions, problems or perceptions. In line with this suggestion, research has found that support usually consists of three types, namely practical assistance, emotional comfort or information and advice (House, 1987). These categories of support mirror the coping styles that are most often proposed to exist (McColl, Lei & Skinner, 1995).

For some time, researchers have focused on the amount of contact individuals have with their support sources and the size of their support network (Kessler et al., 1985). However, considerable evidence has accumulated to suggest that unhelpful interactions or misguided attempts to be supportive can be damaging (Thoits, 1986), and that the subjective sense of being supported is more important to eventual adjustment than the actual size of the support network (e.g., Cobb & Jones, 1984).

Many studies have confirmed that low levels of perceived support are related to higher levels of distress following negative events, both in the short-term (Rogers & Kreutzer, 1984) and the long-term (Hall et al., 1994). However, other findings relating to social support have yielded different results. For instance, in a study of people who have contracted HIV, Pakenham, Dadds and Terry (1994) found that social support did not protect individuals from the stress associated with their illness. Similarly, Rahim and Psenicka (1996) found no role for workplace social support in the prediction of psychological symptoms following work-related stress. Other researchers have suggested that excessive social support can be harmful for adjustment following stressful life events (Krause, 1995; Stroebe et al., 1996).

Another environmental resource that is mentioned in the stress literature is financial status. For the most part, financial status is examined as a cause of stress or a consequence of stress (Pierce, Frone, Russell & Cooper, 1996), but is rarely examined as

a resource. In this regard, Hermann and his colleagues (Hermann, Whitman, Wyler, Anton & Vanderzwagg, 1990) reported that financial strain was a significant predictor of emotional distress, even when the effects of personal resources were held constant. Similarly, Melamed, Grosswasser, and Stern (1992) found that psychological adjustment was significantly related to perceived economic independence.

Family-Work Conflict

Family and work are inter-related and interdependent to the extent that experiences in one area affect the quality of life in the other (Sarantakos, 1996). The family is an integral part of the economic process (Edgar, 1991; VandenHeuval, 1993), and when hiring an employee, an employer automatically accepts the worker's family obligations (Sarantakos, 1996). This phenomenon is known as 'spillover'.

Demands associated with family and finances can be a major source of 'extra-organisational' stress that can complicate, or even precipitate, work-place stress (Lasky, 1995). The fact that extra-organisational and intra-organisational influences on the work stress process are virtually indistinguishable creates significant problems for the study and management of stress in the workplace. The occurrence of stressors in the workplace either immediately following a period of chronic stress at home, or in conjunction with other major life stressors, is likely to have a marked impact on outcome (Russo & Vitaliano, 1995), presumably by depleting the level of resources the person can devote to dealing with a work-related event (Terry, 1991). Thus, better adjustment might be expected if work stress occurs in isolation than if it occurs in conjunction with other stressors.

3.2 Job Demands

Although personal vulnerabilities are recognised as an important predictor in the work stress process (Cotton, 1996), it is also important to note that workers each bring different

skills to the workplace as well as a range of vulnerabilities and strengths. The elimination of vulnerabilities from the workplace is not possible, nor desirable, as the success of a workplace often depends on the diversity of personalities from which it is constructed (Dollard, 1996). With the changing nature of the workforce and the inclusion of inherently vulnerable individuals in that workforce (e.g., those with pre-existing psychiatric illnesses or disabilities, and those without adequate social support or financial resources), employers cannot avoid vulnerability. The inclusion of these individuals in the workforce is hinged on the notion of equity for all workers -- exclusion on the basis of 'alleged' vulnerability to stress would be a significant threat to human rights. Risk management strategies that focus on the exclusion of vulnerable workers are subject to false-positive identification errors that are costly at a broader level than just that of the individual or the organisation.

As Douglas and Bain (1996) noted, work environment factors can be less "fixed than personality traits, and….more open to intervention by employers and employees" (p. 4). Therefore, it is clearly more fruitful to examine other causes of stress in the workplace, such as job characteristics. In this regard, the job-related factors that have been found to influence stress include pressures such as heavy workload, poor work conditions, time pressures, unclear work roles, conflict in the workplace, and the emotional demands of work.

Workload

Workload is often described in quantitative terms and can be considered to be excessive when the volume of work exceeds the ability of a worker to meet the demands over a specified period of time (French & Caplan, 1973). In qualitative terms, excessive workload would mean that the requirements of the work exceeds the skills, abilities and knowledge of a worker (Sauter & Murphy, 1995; French & Caplan, 1973).

Several studies have highlighted the deleterious consequences of high workloads or work overload. For instance, a recent study established that work overload and time constraints

were significant contributors to work stress among community nurses (Wilkes et al., 1998). A study of work stress among professionals found that teachers and nurses were most likely to experience work overload and that this factor, concomitant with other interruptions to work, has the potential to result in unbearable work demands (Chan, Lai, Ko & Boey, 2000). As women are most likely to enter these occupations, the pressure of high workloads is likely to be exacerbated by the conflicting demands of home life. In this regard, the study concluded that workload was not an isolated source of work stress but tended to be combined with other factors in the prediction of stress. Clearly, the pervasive influence of globalisation on the workplace has resulted in increased organisational demands upon the worker. As a consequence, there is a high potential for workers to be adversely affected.

Time Pressure

The issue of unrealistic time constraints and deadlines is as important as work overload – indeed the two factors usually occur in combination. Several studies have found a strong relationship between work stress and time factors. These factors have included such concerns as insufficient time for planning, inability to complete required tasks in the allocated workday resulting in work being taken home, constant interruptions relating to other work demands (i.e., meetings), and unreasonable deadlines (Humphrey, 1998; Sauter & Hurrell, 1999). Indeed, a recent national study into the changing workforce found that the proportion of workers bringing work home from the job once a week or more, has increased by 10 percent since 1977. Most workers in this study reported a change in their perceptions of work pressures in that 66 percent agreed with the statement, 'I never seem to have enough time to get everything done on my job' (Swamberg, Galinsky & Bond, 1999). Other research that examined the impact of long hours on managers, found that a range of stress-related symptoms, including excessive fatigue and headaches, were predominately associated with the need to manage excessive workloads and simultaneously meet unrealistic targets and deadlines (Townley, 2000).

A growing number of organisations have adopted longer working hours, possibly in an effort to maximise productivity. As a consequence, more workers are committed to complex and odd shifts (Scabracq & Cooper, 2000). This trend is reflected in the prevalence of the twelve hour working day that has been adopted by many Australian workplaces (Heiler, 1998). In a study conducted by the Australian Bureau of Statistics (1998), it was found that full-time workers were working 42.5 hours per week on average, a figure that has increased since previous years. Recent research into the effects of this extended shift has suggested that there are grounds for concern over the impact of extended working hours on the physical and psychological health of workers (Bent, 1998). Along with the marked increase in the number of hours worked per day, there has been the unprecedented growth in the amount of overtime worked. According to a recent review of overtime in the manufacturing industry, in the United States, average weekly overtime increased from 1.6 hours to 4.9 hours over a seven year period. What is notable about this survey is that whilst the employment rate within the manufacturing industry declined during the year of 1999, total overtime hours remained stable in the same year. This suggests that fewer workers maintained productivity levels by working an increased amount of overtime and, potentially, experiencing significant time pressure (Hetrick, 2000).

Performance Pressure

A major consequence of the rapidly changing global scene is the increased pace workers are required to maintain to ensure maximum productivity and enhance competitiveness. In addition to the need to maintain high organisational performance, there is a requirement for workers to perform multiple tasks in the workplace to keep abreast of changing technologies (Cascio, 1995; Quick, 1997). These organisational changes have been found to be potentially detrimental to workers' health. Indeed, recent research has found performance pressure in professionals to be one of the most stressful aspects of their work (Cahn et al., 2000). Other studies have highlighted concerns regarding the changing nature of work and its link to an increased risk of injury and illness (Babson, 1993; Townley, 2000).

In this regard, a recent survey of managers in the United Kingdom indicated that the majority were unhappy with the current workplace culture where they were required to work extended hours and cope with large workloads while simultaneously meeting production targets and deadlines (Townley, 2000). The results of this study highlighted a range of stress-related symptoms including excessive tiredness, headaches and a loss of temper as being associated with such workplace demands. Further studies have established an association between increased working hours and impoverished family and social life (Cahn et al., 2000), thus exacerbating the impact of work stress.

Many organisations subject their workers to further 'performance pressure' by monitoring their activities and/or output in the workplace. In order to maintain and enhance productivity, workers often find their work practices scrutinised by others on the team. Monitoring and/or surveillance of the worker is rapidly becoming a well-accepted procedure in many occupations. In the past, only a few occupations were monitored (predominately telephone operators to check the quality of the service provided), however, the trend has now embraced a range of occupations and a plethora of service industries (Humphrey, 1998). The impact of such monitoring is a sense of pervasiveness among employees, a loss of the freedom to interact with co-workers and receive support, reduced co-operation, increased mistrust, and more competitiveness among co-workers. A potential consequence of practices such as these for the worker is the increased likelihood of experiencing work-related stress.

In contrast to performance pressure, under-utilisation of skills has become a significant problem in recent years. It is well recognised that pressure results from the degree to which the environment inhibits or promotes utilisation and development of skills and abilities. Under-utilisation of a worker's skill-base usually occurs when the worker is performing tasks that are often simple in nature and offer little challenge. The primary cause of under-utilisation is the fact that many people are over-qualified for the positions that are available. However, under-utilisation can also result from a worker being

prevented from undertaking training to acquire new skills. This barrier results in an inability to progress to more complex tasks (Muchinsky, 1997). Under-utilisation of work skills and low skill variety are found to be detrimental to the health and well-being of the worker (Karasek & Theorell, 1990).

Unclear Work Roles

High levels of occupational stress are likely to be evident in organisations where there are elevated levels of role ambiguity and role conflict (Anderson, 1991; Cooper, 1991; Duquette, Kerouac, Sandhu & Beaudet, 1994; Hatton & Emerson, 1993; Rose, 1995). The effect of these constructs on negative job-related attitudes and behaviours is pervasive (Cordes & Dougherty, 1993; Rosenzweig & Karst, 1991; Steers & Mowbray, 1985). Role ambiguity exists when an individual lacks information about the requirements of his or her role, how those role requirements are to be met, and the evaluative procedures available to ensure that the role is being performed successfully (Beehr, Walsh & Taber, 1976; Cordes & Dougherty, 1993; Cooper, 1991; Dyer & Quine, 1998; Ursprung, 1986). Role ambiguity has been found to lead to such negative outcomes as reduced confidence, a sense of hopelessness, anxiety, and depression (Jackson & Schuler, 1985; Muchinsky, 1997).

Role conflict, a construct often associated with role ambiguity, presents when the individual experiences incongruous job expectations, and can also occur when the individual is required to fulfill several different roles (Cooper, 1991). Role conflict has been defined as two or more sets of role expectations such that the realisation of one set makes it difficult or impossible to actualise the other (Kahn et al., 1964). Role conflict can lead to negative job attitudes and behaviours that include a decrease in job satisfaction, an increase in anxiety, a reduction of trust and confidence in the organisation and damaged interpersonal relations with co-workers and supervisors (Caplan, 1982; Fisher & Gitleson, 1983; Kahn, 1974). Conflicts of this nature are reported to be prevalent in such occupations as human services, military and police, where the division

of time and the roles required at any point in time cannot always be clearly predicted (Muchinsky, 1997).

Both role ambiguity and role conflict have been shown to increase emotional exhaustion and depersonalisation, while decreasing feelings of personal accomplishment (Cordes et al., 1993; Lee & Ashforth, 1991; Miller, Zook & Ellis, 1989; Siefert, Jayaratne & Chess, 1991). A recent study reported that stress among vocational placement coordinators was associated with high levels of role conflict (Flett & Biggs, 1992). Similarly, a study of job satisfaction among health care social workers found that role conflict and role ambiguity emerged as significant predictors of emotional exhaustion and work stress among these workers (Siefert, Jayarante & Chess, 1991). Several studies, using meta-analysis, have demonstrated consistent relationships between role ambiguity/conflict and low levels of job satisfaction, a lack of interest in work, increased levels of anxiety, decreased commitment, and a propensity to leave the organisation (Fisher & Gitleson, 1983; Fox, Dwyer & Ganster, 1991; Jackson & Schuler, 1985; Miles, 1975).

However, a study conducted by Bedeian and Armenakis (1981) found that the relationships between role ambiguity/conflict and the propensity to leave a job were negligible, after accounting for the effect of job satisfaction. This finding has been replicated by other researchers (Kemery, Mossholder & Touliatos, 1985; Netemeyer et al., 1990) indicating that role conflict and role ambiguity may not have direct effects on the propensity to leave a job. Instead, these constructs may indirectly affect other constructs, such as job satisfaction or organisational commitment, which may then impact upon the level of job stress a worker may be experiencing.

Conflict at Work

Conflict in the workplace has been identified as a significant source of stress for some workers, as reflected by the fact that many stress claims can be linked with the mismanagement of conflict at work, negative interpersonal interactions with co-workers, and negative reactions to management decisions (Cotton & Fisher, 1995; Shergold,

1995). Toohey (1994) defined conflict as a serious, on-going occurrence of strife between employees or between the employee and those in supervisory or management positions that does not include trivial or fleeting matters. In relation to the outcome of conflict in the workplace, Toohey (1994) argued that workers who have a limited range of options to deal with situations that are distressing at work are more susceptible to deleterious effects on their psychological well-being. Conflict is pervasive across all types of organisations and can manifest itself in a variety of ways including emotional turmoil (i.e., anxiety, tension, and frustration), increased absenteeism, job turnover, violence and, from a group conflict perspective, strikes and demonstrations (Cooper & Payne, 1988; Toohey, 1994). Furthermore, conflict can include both overt situations, whereby a worker may be the victim of an aggressive or violent act, or more subtle forms of disagreement such as differences of opinion or expectations (Robbins, Waters-Marsh, Cacioppe & Millet, 1994).

Traditionally, conflict in the workplace has been perceived as being 'negative' or 'bad' and has often resulted in harmful consequences for an organisation's performance. However, it is important to note that not all conflict is detrimental to the workplace or to the worker. Indeed, several studies have established a positive relationship between conflict at work and innovative decision-making and productivity. For instance, one study found that among twenty-two teams of system analysts, the more incompatible groups were likely to be the most productive (Hill, 1974). Nevertheless, conflict can, and indeed does, result in destructive consequences for the worker and the organisation. In this regard, a study of four hundred respondents from a broad range of organisations identified conflicts with supervisors as one of the most significant stressors associated with the majority of maladaptive behaviours at the workplace. These included excessive drinking and taking frustrations out on co-workers (Sulsky & Smith, 1999; Toohey, 1994). Moreover, a recent study among nurses found a strong association between work-related stress and unsatisfactory relationships with peers, supervisors and patients (Piko, 1999). A recent Asian study found that workers tended to tolerate unfair treatment and unpleasant work conditions in an attempt to avoid open conflict with their co-workers

(Chan et al., 2000). The study found that this phenomenon was particularly evident in nurses, lawyers and engineers. Clearly, it is important to understand the potentially negative impact that conflict in the workplace may have upon worker well-being and, subsequently, the organisation.

The Emotional Demands of Work

In most workplaces, there is a need to balance the demands of personal and family life with the demands of the employer. Naturally, emotional events in one sector will impact on performance in the other sector but, to some extent, all workers must manage their emotions effectively in the workplace to create a publicly acceptable image. Hochschild (1983) referred to this activity as 'emotional labour' which has been defined as "the effort, planning and control needed to express organisationally desired emotions during interpersonal transactions" (Morris & Feldman, 1996, p. 987). Briner (1999) noted that some jobs are extremely demanding in regard to emotional labour (e.g., debt collectors, flight attendants, hairdressers, nurses, etc.). In many of these jobs, emotional labour is directly requested by employers, presumably because of its impact on organisational outcomes (i.e., increased number of clients as a result of 'happy' workers), the performance of the individual worker and the maintenance of workplace morale (Briner, 1999). However, the need to monitor and control emotions at work has also been found to be associated with stress among workers in the public service sectors (Wharton & Erickson, 1995). In these professions, workers are regularly required to deal with the negative tension created by emotional dissonance (i.e., expression of emotions that differ from those they are feeling, faking an emotion or hiding an emotion).

The need for emotional labour has also been found among individuals in physically dangerous professions (e.g., firefighters, police and other emergency personnel) where there is an ongoing fear of harm or death and in emotionally dangerous professions (e.g., nursing, medical, human and community services) where there is ongoing exposure to human suffering and tragedy. In these professions, there is an enormous demand to manage and prevent the expression of emotions such as fear or sadness, replacing these

with courage and calm (Beaton, Murphy, Pike & Jarrett, 1995). In fact, the ability to manage these emotions is applauded as an indication of professionalism. Morris and Feldman (1997) suggested that it is this dissonance, between felt and expressed emotions, together with the frequency and duration of the demand for emotional labour, that will determine the impact of emotional labour on worker well-being.

3.3 Organisational Climate

As already noted, the nature of work and the workplace has changed significantly over the last decade, with major consequences for the experience of work stress. Two of the most significant forces in recent years have been globalisation of the economy and the rapid development of information technology. These forces have created an organisational climate that is characterised by increased pressures and demands for productivity. In the search for competitive advantage within the economy, work is being outsourced or conducted in virtual workplaces by a temporary workforce (Belous, 1998; Medcof & Needham, 1998). Employees often find that they have multiple roles in organisations, leading to role conflict (Cooper, 1991). Further, they must contend with constantly changing co-workers, poorly defined tasks, and job insecurity. At the same time, workloads have increased in response to greater demands for productivity and the increased speed with which communication can occur in the workplace (Jacobs, 1994).

Globalisation of the Economy

The influence that gobalisation of the economy has on changes in the contemporary environment of organisations is well recognised (Carrithers, 1992; Cascio, 1995; Kochan, 1997; Schabracq & Cooper, 2000). Globalisation refers to the large volume of business transactions that move across the globe at an increasingly accelerated rate (Graddick, 1992). This phenomenon has promoted escalating domestic and global competition and the rapid movement of financial markets (Cascio, 1995; James, 1997). Accompanying these global trends is the demand for high organisational performance that necessitates tougher competition, rapid changes in information technology,

increased productivity, greater organisational and worker flexibility, and lower costs in the provision of goods and services (Berwald, 1998; Carrithers, 1992; Kirby, 1999; Kochan, 1997).

Among the consequences of operating in such an increasingly complex global environment is the potential for the worker to experience increased strain and work stress. For instance, globalisation has resulted in a flood of redundancies, in an effort to downsize and minimise costs, which has ultimately resulted in increased demands on the remaining workforce (Kirby, 1999; Maslach, 1999). To maintain and enhance productivity and keep abreast of global market demands, workers are under increasing pressure to work longer hours (Heiler, 1998; Hetrick, 2000; Townley, 2000), work at a faster pace (Bousfield, 1999; Humphrey, 1998), increase workloads (Townley, 2000), and become multi-skilled (Sauter & Hurrell, 1999). A major change, common to many organisations, has been the introduction of longer work shifts (Heiler, 1998; Thomas, 1998).

In an attempt to achieve higher levels of product quality and maintain competitive advantage, many organisations have levelled out hierarchical structures, reduced overall number of employees and adopted such practices as self-managed teams and leaner production processes (Cascio, 1995; Sauter & Hurrell, 1999). This has resulted in increased responsibility and ill-defined work roles for workers (Johns, 1998; Thomas, 1998). New employment relationships have resulted in jobs becoming less stable and secure. For example, temporary employment has increased by 400 percent since the early 1980's and it is predicted that by the year 2020 a quarter of the workforce could be working in non-traditional employment arrangements (Judy & D'Amico, 1997; Kochan, Smith, Wells & Rebitzer, 1994). Workers are required to perform many and varied tasks, work as team members, self-manage, and learn new work tasks rapidly as the organisation changes to remain competitive. As a result, jobs have become ill-defined, exacerbating issues such as role ambiguity and role conflict. These factors, in turn, have

the potential to lead to work stress and illness (Dunette, 1998; Lee & Ashforth, 1991; Jackson & Schuler, 1985; Johns, 1998).

The Impact of Technology

In addition to the onslaught of globalisation, the development of rapidly changing technologies has influenced the working environment. These advances in technology have resulted in the downsizing of many organisations as tasks that were undertaken by manual labour become automated. Technology has also enabled a profound increase in the automated monitoring of performance in the workplace (Aiello & Kolb, 1995), thus increasing performance pressure. A variety of worker activities are now under surveillance as organisations can record telephone usage, real-time computer performance (i.e., number of key strokes per minute) and even the length of restroom breaks. According to Humphrey (1998), intrusions of this nature are effecting millions of workers worldwide in such industries as the airlines, government agencies, insurance companies and telephone companies.

Rosch (1991) coined the term 'technostress' to refer to the frustrations, anxiety, dehumanisation and depression that is increasingly evident in 'high-tech' work environments. He, and many other researchers, have indicated that technostress is becoming a growing concern among workers. Technostress is particularly relevant in industries where information overload stems from the sheer volume of information that is obtained from facsimile machines, cellular telephones, conference calls, electronic mail and personal pagers.

3.4 The Interaction Between Worker and Job

Most researchers have acknowledged the need to examine the complex, and sometimes subtle, interactions between workers and their workplaces rather than focussing on either component individually. As Cotton (1996) noted, personal vulnerabilities are probably the most significant predictors of the experience of stress. However, organisational

demands are likely to be the strongest determinants of morale and organisational commitment (Jones, Flynn & Kelloway, 1995). As Cotton (1996) suggested, claims for compensation in cases of psychological injury are most likely to occur when the experience of stress is combined with low morale in the workplace (see also Schofield, 1996). This notion clearly gives credence to the importance of the interaction between a worker and his or her environment.

Several popular models of work stress have acknowledged the role of the interaction or match between workers and their jobs. The assumptions that underlie the Person-Environment Fit model (Swanson & Fouad, 1999) stated that individuals will seek out work environments that are congruent with their characteristics. They search for environments that will enable them to express their skills, abilities, attitudes, values and needs (Holland, 1997). Lofquist and Dawis (1984) noted that when an individual's skills and abilities match those required by the job, the match will result in 'satisfactoriness'. When the individual's attitudes and values match the rewards that are available in the job, then the worker will experience satisfaction. This theory indicates that both satisfactoriness and satisfaction are necessary conditions of work adjustment. Thus, strain is the result of a discrepancy between person and environment at either level.

Other research has suggested that the interaction between the worker and his or her job is important because the negative effect of job stressors can be offset by benefits the individual derives from the work environment. Although dissatisfaction with one's job has been primarily considered to be an outcome of the work stress process (Cherniss, 1980), some research has shown that satisfaction with one's work content may actually provide an important buffer against the negative effect of stress (Macdonald & Upsdell, 1996). For instance, an Australian study conducted by Geare (1989), found that job satisfaction or enjoyment at work was high for those who perceived their stress level to be 'just right', but also for those who reported that their stress was 'too high'. Performance in the job did not differ across the groups, although those who reported high stress also reported more physical symptoms of strain and medical treatment over the

previous five years. As will be discussed later, it is possible that greater contact with the medical profession actually caused the perception that stress was too high rather than stress causing medical attention. Nevertheless, it is possible that these workers who reported high stress were gaining other positive benefits from their stressful work.

Along similar lines to these findings, the effort-reward model (Siegrist, 1996) suggests that there must be a perceived balance between the effort that is required in a job and the rewards that are gained. In two longitudinal studies of German factory workers and middle managers, Siegrist (1996) found that the combined 'effort-reward imbalance' variable was a significant predictor of several behavioural and physical indicators of stress. This model supports the supposition that the negative effects of job stress can be prevented if other aspects of the job provide positive outcomes. Maslach (1999), in her reformulation of her burnout model, suggested that workload and hours spent at work may not be considered to be stressful if the work is associated with sufficient rewards, such as meaningful outcomes, recognition or control.

The converse of the effort-reward model is the effort-distress model (Lundberg & Frankenhauser, 1980). This model predicts that the need for effort (i.e., due to high workload) would be most damaging to workers if it was accompanied by a negative evaluation of the task (i.e., distress, meaninglessness, boredom, irritation, etc.). Similarly, the experience of hindrances that prevent the outcomes from one's effort were found to be associated with negative outcomes (Cavanaugh, Roehling, Boswell & Boudreau, 1999). The interaction between job effort and boredom or frustration has been found to significantly predict physical symptoms of stress among data entry workers, sawmill workers and assembly line workers (Frankenhauser & Gardell, 1976).

Warr (1987) suggested that affective well-being at work was determined with reference to two separate dimensions, pleasure and arousal. According to Warr, the highest level of well-being at work was associated with high levels of both arousal and pleasure, whereas low levels on both dimensions would result in depression. This contention has been

supported by the finding that the perception of a job as exhilarating (and presumably arousing) may be an antidote for the stressful demands of physically or emotionally dangerous professions (McIntosh, 1995). Similarly, Cavanaugh and colleagues (1999) found that a high level of challenge in a job was associated with high levels of satisfaction and intention to stay in that job. In an alternative interpretation of the arousal hypothesis, Lyng (1990) suggested that dangerous or challenging work may actually provide individuals with an opportunity to feel a sense of control, probably as a result of the training, fitness and skills that are required to accomplish their duties. This conclusion concurs with those of Maslach (1999) and Karasek (1979) regarding the importance of control as a buffer against stress.

In relation to control over work demands, Karasek's (1979) simplistic, but popular, model of job strain clearly reflects the importance of the complex interaction between workers and their environment. In his model, Karasek (1979, 1981) highlighted the importance of controllability over the work environment. Job decision latitude refers to the potential for control or discretion over work activities (e.g., opportunities to make decisions about the work, the use of variety of skills, and the organisation of work activities). According to Karasek (1979), job strain occurs in response to the interaction between job demands and job control. He asserted that highly demanding jobs were more likely to result in psychological and physical ill health if they were also associated with low levels of control over the work. The interaction between these two factors creates four possible types of work, namely (1) low strain work characterised by low job demands and high control, (2) high strain work created by high demands and low control; (3) passive work characterised by low demand and low control; and (4) active work characteristed by high demands but also high control. The most negative consequences for workers have been associated with high strain work (Radmacher & Sheridan, 1995), indicating that a sense of control can ameliorate the negative effects of high job stress.

Although there is mixed support for the specific tenets of the demand-control model (Dollard, 1996), the opportunity for control has been identified as a crucial determinant

of mental health in the workplace (Muchinsky, 1997). Control in the work place can generally be defined as the ability to exert some influence over the environment so that it becomes more rewarding and less threatening (Ganster, 1995). There are many different dimensions of control that can be applied to the work environment. The opportunity for control has two main elements, namely the ability to make choices and act on those choices, and the potential to predict the consequences of an action. According to Frese (1989), control includes the ability to control work content, the work place and the environment in which work is undertaken. Control has been examined in the context of a worker's participation in decision-making and job autonomy, as well as control over aversive work events, work content, work pace and work hours (Cotton, 1995). Regardless of the type of control, however, there seems to be a general acknowledgement of the importance of control for the mental well-being of workers (Sauter, Hurrell & Cooper, 1989).

Lack of control has been identified both as a source of stress and critical health risk for some workers (Long, 1995). A recent study amongst university teachers found that a reduction in control over work was strongly predictive of work stress (Fisher, 1994). Further, research has found that workers who are unable to exert control over their lives at work are more likely to experience work stress and, consequently, impaired health (Sutton, Kahn, Sauter, Hurrell & Cooper, 1989). Many studies have found that high job demand and low control (referred to as decreased decision latitude) lead to job dissatisfaction, mental strain and cardiovascular disease (Long, 1995). Indeed, Israel, House, Schurman, Heaney, and Mero (1989) concluded that the ability to control or influence work factors, such as speed and pace of production, is linked to incidence of cardiovascular disease as well as to psychosomatic disorders, job satisfaction and depression. Lack of control may also result in feelings of frustration, low morale and, loss of self-esteem (Rhodes, 1986). The extent to which individuals are able to control their work environment may determine the effectiveness of particular coping strategies and, thus, the extent to which personal and organisational goals are met. One study found that the influence workers believed themselves to have as a result of participation, rather

than participation per se, reduced job stress and ill-health (Israel et al., 1989). Further, Jackson (1983) found that participation (attendance at staff meetings) had a negative correlation with perceived job stress and a positive correlation with perceived influence.

Other studies have indicated that the inability to be involved in decisions that affect one's work is particularly stressful for most workers (Schaubroeck et al., 1991) and that non-participation in decision making can lead to such negative consequences as lowered self-esteem, job dissatisfaction, and emotional distress for the worker (Beehr & Drexler, 1986; Dawson, 1989; Spector, 1986). Several researchers have proposed that enhancing worker's commitment to organisational goals can be achieved by allowing workers to exercise control over meaningful aspects of their work through their participation in organisational decision-making (Arches, 1991; Dawson, 1989; Manz, 1986). Indeed, the National Institute for Occupational Safety and Health (NIOSH, 1988), recognised the need for workers to be given the opportunity to have input into decisions or actions that affect their jobs and the performance of their tasks.

3.5 Organisational Culture and Socialisation

In addition to examining the traditional personal and organisational factors in the prediction of work stress, researchers have begun to examine the role of the broad context in both the experience and reporting of stress. Cherniss (1991) defined this context as the structures that contribute to the unique 'culture' of an area and, over time, socialise those who work within that culture. It has been suggested that the conflicts and pressures that arise as a result of these cultures may have a greater impact on psychological well-being than any personal or job factors (Leiter, 1991). Indeed, as Cotton (1996) noted, it is these factors that will be associated with reduced workforce morale, a condition that is thought to be associated with claim lodgement.

Organisational culture embraces the values, character, attitudes, language and beliefs of an organisation. Culture influences the behaviour of its members and the way in which

those members discern and construe the behaviour of others (Muchinsky, 1997; Robbins, Waters-Marsh, Cacioppe & Millet, 1994). Schien (1990) postulated that organisational culture is a system of shared meanings and common understandings. These meanings form a pattern of basic assumptions that are identified or devised by a specific work-group as it learns to deal with external difficulties and integrate internal circumstances. It is these shared meanings that distinguish one organisation from another. Most organisational cultures consist of a dominant culture that signifies the core values shared by the majority of the organisation's members, and many sub-cultures that reflect common experiences and difficulties shared by smaller groups of members (Robbins et al., 1994). Sub-cultures are most likely to be delineated by geographical boundaries or by designations in the workplace.

The first point at which culture can influence an organisation is through the socialisation of new workers. Socialisation refers to the adaptation process a new employee experiences on entry into the organisation and is the procedure for identifying and learning norms, values and behaviours that permit acceptance as a member to that organisation (Van Maaen, 1976). The initial entry stage is the most critical in the socialisation process as the worker is likely to be unaware of prevailing beliefs and customs and will, therefore, cause disruption to the existing culture. The new beliefs and assumptions employees bring with them challenge or disconfirm the existing culture (Schein, 1990). Recent research has indicated that in order to gain status as a member of an organisation, a worker experiences periods of internal conflict and adjustment when initially introduced into the work environment (Bullis, 1993). According to Albrecht and Bach (1997), it is important to ensure that the new worker is fully informed about all aspects of the job and the organisation during this period of socialisation, to ensure that the worker's expectations about the organisation are not unrealistic.

Work cultures can influence both the experience of stress and the reporting of stress, or the likelihood of stress claim lodgement. The types of work cultures that can influence the experience of stress and/or the reporting of stress are likely to be those characterised

by hostility and mistrust (Hart, Wearing & Headley, 1995; Rodridguez, 1997; Winslow, 1998), poor communication (Kyriadou, 1999) or lack of control (Winslow, 1998). Research has shown that workplaces characterised by hostility and mistrust will have a two-fold negative impact on workers in that they will increase the experience of stress at the same time as decreasing the reporting and treatment of stress.

The impact of hostile cultures has been studied extensively. Acts of aggression, violence and harassment in the workplace have been found to be escalating and are becoming a major cause of work-related disability, illness and death (Biles, 1999; Hepburn, Corneil & Barling, 1999). Traditionally, workplace violence has been narrowly defined to include only physical assault or homicide that occurs at the place of work (Hales, Seligman, Newman & Timbrook, 1988). More recently, this definition has been expanded to occupational violence and includes behaviours such as verbal threats, sexual and emotional harassment, bullying, and incidents that cause physical and psychological harm (Ellis, 1999; Thomas, 1992; Varita, 1995).

A common form of workplace violence is 'bullying'. Workplace bullying involves the constant, intimidating and often offensive and abusive behaviour, abuse of power or unfair penalties that have the potential to leave the recipient feeling upset, threatened, humiliated, or vulnerable (Ellis, 1999). The effects of workplace violence are widespread and have the potential to result in reduced productivity and morale, absenteeism, increased incidents of illness and a propensity to leave (Anshel, 2000; Parker, Griffith & Holdaway, 1999; Stockdale & Phillips, 1989). Hostile and aggressive work cultures are particularly prevalent in occupations such as the military where a collective identity is promoted and individuals are expected to respect the values and norms that transcend individual self-interest. Workplace bullying and harassment are common denominators in ensuring that this group identity and shared interest are preserved (Winslow, 1998). Recipients of bullying in the military, or similar cultures, usually find themselves deliberately ostracised from the group and/or severely punished. Recent research found that police officers experience more stress-related physical and psychological complaints

than workers in most other professions, presumably as a result of violence in their culture (Lobel & Dunkel-Schetter, 1990). A further study of policewomen established an association between harassment at work and a heightened sense of anxiety about work performance. These women reported that they constantly had to 'prove' themselves to be capable of undertaking work that is predominately male dominated (Parker et al., 1998). Clearly, such factors have the potential to cause significant strain and/or stress on the individual.

Although the culture within an organisation is a vital component of its functioning, Jones and May (1995) noted that organisations do not exist in a vacuum and are influenced by a range of external factors. They suggested that the broad culture within which organisations operate is defined by the interaction of five major forces, namely, political, legal, economic, societal and technological. Although these forces are not considered to be inherently stressful, Cherniss (1991) suggested that it is not uncommon for them to create a negative working environment that will engender stress.

Of particular concern for stress in the workplace is the fact that economic constraints are likely to create value-clashes for employees. It has been noted that psychological distress will occur for workers when two sets of values are discrepant (Jones, Flynn & Kelloway, 1995). Indeed, stress seems to have a greater prevalence in industries where economic constraints and bureaucratic forces clash with the values that are instilled in workers during their training, namely in the health, community and human services sectors. Workers in these industries continually face conflicts created by the fact that they are accountable and committed to large employers, but professionally, ethically and morally devoted to their clients. More than ever before, there is an overriding directive that workers in the service sector will continue to achieve humanistic outcomes, but for large numbers of clients, with minimal expenditure and in short periods of time. In an age of transparency and accountability, they must find ways to balance the competing demands of employers, funding bodies, clients, families, governments and society (Buys & Kendall, 1999).

For instance, research has shown that work practices and professional values are constantly being undermined for nurses in that they are required to provide quality care for patients on the one hand, but are expected to conserve resources on the other. They are also required to provide quality care for an unrealistically large number of patients within each shift (Cullen, 1995). These value-clashes have the potential to cause low morale, feelings of being devalued and consequently, create stress for the worker. As the culture of workplaces change under the force of economic constraints, workers must also become less idealistic in terms of their work practices and more flexible about values. Similar findings have been reported in relation to teachers who believe that, on leaving university, they will provide an optimal service to the children they teach. When they are unable to do so due to external constraints in the global environment, they are 'shattered' (Friedman, 2000). Failure to consider the impact globalisation has had on workplace culture and the worker will ultimately result in deleterious effects for workers, the organisation and the labour force in general.

Although the culture of an employment environment is extremely difficult to study, it does offer a potentially meaningful point of intervention. Most traditional methods of data-gathering (e.g., questionnaires, surveys, interviews) will produce only superficial information (Schein, 1990). Even analyses of written policy will not divulge sufficient information about organisational culture as it is the interpretation and implementation of those policies that determines culture, along with other subtle factors such as implicit norms, assumed values and degrees of participation in work life (Jaffe, 1995). Furthermore, culture can originate from an hierarchy of structures at the level of the industry, the organisation, the specific work-group and at the level of small groups of individuals communicating with each other (Michela, Lukaszewski & Allegrante, 1995). Thus, culture can be multi-layered and difficult to define. To fully understand culture, an anthropological style of research is necessary.

3.6 The Role of Perceptions and Appraisal

It is important to note that control can differ according to the degree of actual control that is available in the environment. However, of equal importance is the extent to which an individual believes that he or she has control. Researchers have noted that the extent to which individuals judge their situation to be controllable may be as important to the stress process as the actual controllability of the event (Conway & Terry, 1992). This conclusion has been based on extensive findings that individuals can create opportunities for control, even in the most adverse circumstances (Taylor & Brown, 1988). The perception of control has been linked to mental health following stressful events. Specifically, individuals who perceive themselves to have high levels of control over their situation are more likely to implement successful problem-solving coping and are more likely to adjust successfully than individuals who perceive little opportunity for control.

Perceptions also have an important impact on the work stress process during the development and breakdown of the psychological contract. As noted earlier, the psychological contract is an unwritten, and often unspoken, agreement between the worker and the employer. This agreement usually centres around the provision of commitment by the worker in exchange for support from the employer. Organisational commitment has been defined as the strength of an individual's identification with, and involvement in, an organisation as shown by a belief in, and acceptance of, the organisation's goals/values, a willingness to exert effort on behalf of the organisation and a desire to maintain membership in the organisation (Brooke et al., p.139). This affective tie to the organisation has been linked to low levels of intention to leave (Wolfe & Feeley, 1999). On the other side of the contract, organisational support involves the extent to which the organisation is perceived by workers to respect their personal needs, values and goals. On the basis of this exchange, a psychological contract is established (Rousseau, 1995).

Information on which employees build their psychological 'contracts' with organisations comes directly from the organisation or its representatives in the form of statements, promises and policies; or indirectly through observations of co-workers, practices and common values. Rarely are psychological contracts validated or confirmed by both parties, leaving them vulnerable to perceived violations that can trigger adverse reactions and behaviour by the 'injured' party (Rosseau, 1995). Violations are usually inadvertent in that both parties may be willing to maintain their commitment to each other but have misinterpreted the contract. Given the subjective nature of contracts, inadvertent violation is virtually unavoidable. Similarly, contracts can be breached due to disruption that is beyond either party's control, for instance, when both parties are willing to continue their commitment but are no longer able to do so (e.g., closure of a workplace, illness etc.). According to Heaney and Joarder (1999), unfair practices that could result in perceived violations include those that are characterised by inconsistent treatment across time or across workers, unrealistic expectations, lack of consultation and lack of responsiveness to workers' needs (Cejado, Karkashian, Gershon & Murphy, 1999).

In the optimum employment relationship, the psychological contract will operate well and will be sufficiently flexible to accommodate changes in the employment context (Anderson & Schalk, 1999), such that violations may not be perceived to have occurred. Consequently, the employee-employer relationship should continue to function and, when stress is experienced, it is likely to be dealt with appropriately. However, because psychological contracts are built on trust and perceptions, perceived violations are likely to result in intense emotional reactions (Anderson & Schalk, 1999). Research has shown that when people perceive that they have been unfairly treated, many will become angry, or even aggressive (Beugre, 1999). According to Beugre (1999), when aggression is not appropriate, people may find other ways of expression, possibly in the instigation of industrial relations activity or claim lodgement (Snell, 1995).

Most predictive models in the area of stress have given central importance to the individual's perceptions, through the concept of appraisal. Thus, these models have

given recognition to the fact that defining stress is a subjective, individual and unique process. One of the most frequently cited models of stress is that proposed by Lazarus and Folkman (1984). This model is based on the assumption that an outcome following any life event (i.e., workplace stressor) is dependent more on the subjective evaluations of the individual than on any objective characteristics of the event. Specifically, Lazarus and Folkman proposed that the subjective appraisal an individual makes of an event is crucial to the adjustment process because an event cannot be considered stressful until it has been defined as such by the individual.

Typically, stressful events are those that are appraised as extremely threatening or harmful by the individual rather than those that are appraised as being irrelevant, benign or challenging. This type of appraisal is called primary appraisal as it is likely to be the first type of interpretation the individual makes when confronted with a potential stressor. However, according to Lazarus and Folkman (1984), it is not sufficient that an event be appraised as threatening – it must also be appraised as unable to be managed. Thus, stressful events are likely to be those that the individual also believes he or she will not be able to solve or overcome successfully (called secondary appraisal). Secondary appraisal is similar to the concept of self-efficacy that has been recently reviewed by Bandura (1997) in the context of occupational stress. Rather than being a generalised tendency to believe that one has control over one's life, self-efficacy is a situationally-specific belief that one can successfully bring about the particular outcomes that are desired in this set of circumstances. According to Bandura, individuals with a low sense of self-efficacy will experience stress and anxiety in response to excessive demands and responsibilities, whereas those with a high sense of self-efficacy will experience stress and job dissatisfaction in response to the lack of opportunities to make use of their skills and talents.

Thus, the definition of stressful events will differ across individuals, and will be those that the individual believes to be both threatening and overwhelming. Events perceived to be threatening but able to be dealt with adequately will not be regarded as stressful.

Events perceived to be threatening may only be considered to be stressful if the individual has insufficient personal or environmental resources upon which to draw in his or her coping efforts (e.g., inadequate social support, financial difficulties etc.). The concept of appraisal has been articulated in various models of stress and coping. The Lazarus and Folkman (1984) model proposes that appraisal is influenced by the resources available to the person, his or her personal vulnerabilities, and the situation in which the individual finds herself or himself. Appraisal, in turn, influences the coping efforts the individual engages in, which then influences the outcome of the stress transaction.

Many other predictive models exist, but all take some form similar to the Lazarus and Folkman model. For instance, Kahn and Byosiere (1992) also outlined a mediated model where organisational characteristics (e.g., job characteristics) were antecedents to job stressors (e.g., role ambiguity, overload etc.), but the relationship between the two is mediated by properties of the person (e.g., personal resources or vulnerabilities) and the situation (e.g., support at work). These factors all impact on the appraisal process, leading to a response to stress (e.g., physical, psychological and behavioural problems) and more long-term consequences (e.g., illness, poor performance). A slightly different model was proposed by Marshall and Cooper (1979), although the central role of the appraisal process was still acknowledged. In this model, a range of environmental stressors (e.g., extra-organisational stressors, organisational climate, work relationships, job demands, and career development factors) are all mediated through the 'neurotic tendencies' of the individual, leading to stress which results in poor physical, emotional and organisational outcomes. In the Process Model of Burnout, Cherniss (1980) suggested that workplace stressors influence the way in which the individual evaluates his or her work environment (e.g., makes judgements about competence, satisfaction, fulfillment, collegiality, etc.) which, in turn, influence the attitude of the worker (i.e., the experience of stress and burnout).

The importance of the appraisal concept is highlighted in these models. For example, even if job demands and personal vulnerabilities could be identified and minimised, or at

least held constant in a research context, the prediction of work stress would still be dependent on the individual's interpretation of his or her current situation. Although it is acknowledged that the nature of appraisal will be influenced by characteristics of the job-related stressors and the qualities of the individual, it will differ markedly for each individual. Consequently, prediction of responses to stressors on a case-by-case basis is virtually impossible without indepth knowledge of that individual's interpretations, appraisals and perceptions at any particular point in time. Further, the models suggest that prediction requires an understanding of the complex interactions that exist between all the factors that have been identified as important in the stress process.

3.7 Human Resource Management Practices

In an employment context where 'perpetual change' is the only certainty and job security is no longer valid (Baruch & Hind, 1999), change must be managed well. In the past decade, Australia has experienced several precipitating factors resulting in workplace change. With recession, many changes have occurred in the human resource management field, including labour market stake-out, the promotion of enterprise bargaining principles and practices, rationalisation and cost reduction within industry and the demise of award protection. Organisations are responding to the external and internal demands placed upon them by realigning their organisational structures and strategies (Callan, 1993). Decentralised, flatter and more flexible structures are evolving as opposed to the traditional highly centralised, hierarchical organisations of the past decades (Windel & Zimolong, 1999). These flatter organisations necessitate the need for managers who are effective and efficient within the fast-moving and unpredictable environments (Atkinson, 1999). However, this devolution revolution is resulting in decisions and resources being pressed down to business unit level, that is, shifting responsibility down the hierarchical ladder whilst reducing access to necessary resources.

Consequently, innovative management and organisational strategies are constantly evolving and developing to enable organisations to manage the change process, whilst

still functioning as a competitive entity. While these changes do bring innovation, Baruch and Hind (1999) outlined the "chaos and uncertainty" (p. 29) that also arises in relation to the management of people within the workplace. For many employees, the force of these changes and the breadth of rationalisation within the workplace, has provided limited opportunities to respond positively to the reduced resources and increased demands. The extent to which organisations and their employees adapt to the increased stress and associated strains of work severely impacts on the organisation's continued subsistence, and on society generally (Cartwright & Cooper, 1996).

Old models of human resource management relied on the existence of a stable workplace culture that will re-emerge following change (e.g., Lewin, 1951). However, in the current climate, stability is no longer perceived to be a realistic goal in the workplace (Baruch & Hind, 1999). As noted by Baruch and Hind, organisations may acknowledge that they are operating in a period of perpetual change but will continue to relate to employees in a traditional paternalistic manner, giving rise to expectations on the part of the employee that cannot be met. As Kramar, McGraw and Schuler (1997) reported, in order to maximise the change process and manage it efficiently, workers must change, thereby highlighting the need for effective human resource management. Organisations that mismanage the change process have generally been found to experience significant difficulties (Cameron, 1994).

Guest (1987) highlighted the fact that human resource management can be considered to be an explicit strategy in gaining a comparative and competitive advantage in times of workplace change. However, responsibility to cope with the changes being experienced by an organisation as it becomes leaner and more aggressively competitive is often left to the individual worker (Callan, 1993). As an organisation's success and survival largely depends on the management of its human resources (Pierce & Dunham, 1990), human resource management remains a priority in such perpetually changing times. However, several factors make it difficult for human resource managers to effectively deal with issues of stress in the workforce, namely the devolution of responsibility for human

resource management to line managers, the demise of unionism to encourage the participation of workers in management decisions, lack of skills in terms of job re-design strategies, inadequate performance appraisal procedures, difficulties managing the diversity of the current workforce, and failure to enforce adherence to occupational health and safety legislation in the workplace (Kenny, 1995).

Devolution of Responsibility in Human Resource Management

The centralisation of human resource practices and the consequent devolution of many aspects of the management of human resources within an organisation may increase the likelihood that psychological issues among workers will be overlooked. Traditionally, human resource managers had limited involvement in the organisations goals and were primarily concerned with short-term operational and managerial human resource needs (McCarthy & Stone, 1986). However, the extensive relationship between human resource management and the external and internal organisational environment has witnessed an enmeshment of the human resource functions. Human resource management is now operating at three organisational levels; (1) a strategic level where managers are involved in developing means to gain competitive advantage; (2) a managerial level dealing with the validation of systems that relate current conditions to future potential, such as fostering development and planning career paths; and (3) the traditional operational level where staffing and recruitment plans, job analysis, job-person fit and administration of wages are the primary tasks (Kramar, McGraw & Schuler, 1997).

This change in the focus of human resource practices, combined with the decentralisation of the organisational hierarchy, has lead to the devolution of direct human resource management to the line manager level. The tasks and decisions concerning human resource management are dispersed across the organisation rather than there being a functional presence of a large human resource department as was previously found in many large organisations (Legge, 1995). Similarly, Kramar, McGraw and Schuler (1997) noted a trend to "centralise non-routine aspects of human resources and to decentralise day to day activities" (p. 35). As a result, Tower and Perrin (1992) concluded that human

resource practices should be developed and implemented jointly by line and human resource managers to acknowledge the greater involvement of line managers in this process. The consequence of this devolution is that human resource specialists are predominantly involved in the 'non-routine' aspects of human resource management, whereas line managers are required to deal with the important issues that impact on stress in the workplace, including the management of conflict, staffing issues, discipline and motivation of employees.

To be effective within their new role, line managers are required to possess an adequate knowledge of issues that may impact on the human resources under their direction, including issues of health and stress. Unfortunately, they are likely to have received inadequate training to recognise and deal with psychological issues among workers – indeed they will probably lack both skills and resources. However, as Marshall and Cooper (1981) noted, even if line managers do possess the necessary knowledge, they may fail to manage the issues effectively simply due to lack of time. In this regard, Kramar, McGraw and Schuler (1997) found that line managers devoted only one-fifth of their time to dealing with human resource issues. Indeed, both human resource specialists and line managers are likely to be overloaded with other aspects of their roles, broader organisational issues and training demands. Insufficient time is available to examine the individual performance of workers and their well-being.

Consequently, the devolution of human resource practices within organisations should cause concern, particularly in relation to employees who are experiencing stress. Problematic situations are likely to arise as a result of mismanaged conflict, poorly handled performance counselling and reactions among workers to poor delivery of management decisions (Cotton & Fisher, 1995). According to Peterson (1998), the main causes of stress within the workplace are management issues, such as discord with management and unresolved health and safety issues. Cartwright and Cooper (1996) noted that poor relationships within the working environment, such as with a supervisor or colleague, are an important source of stress. If relationships are managed poorly within

the organisational environment, potentially supportive relationships that could provide a buffer against stress are damaged. Importantly, as noted by Scofield and Martin (1990), a perceived lack of support and recognition from supervisors is also a strong predictor of the experience of stress. Indeed, in a study of workers who had been the targets of bullying in the workplace, managers and human resource staff were rated as the two least helpful resources (Namie & Namie, 1999).

Melhuish (1981) noted several complex attitudinal reasons for the non-identification and mismanagement of employees who experience stress, in addition to the lack of time and resources/skills. First, there tends to be a reluctance of management to concede that their approach may be associated with ill health and stress in their workers. Although some employees may adapt well, and indeed excel, within an environment characterised by increased demands and challenges, other employees may respond with distress and decreased quality of life (McCarthy & Stone 1989; Nankervis, Compton & McCarthy, 1996). Managers must acknowledge these differences in their workers. Second, Melhuish (1981) stated that for many managers, work provides their most satisfactory role, sometimes to the detriment of other life interests such as relationships with family and friends and recreational pursuits. An examination of any problems within this work role may impact greatly on the pride and ambition of the manager. Third, Melhuish (1981) highlighted a reluctance on the part of managers to be educated in the area of prevention and management of stress-related conditions because such activities are unlikely to be considered by managers to be part of their work role. Failure of managers to accept such a role was seen as a prominent explanation for the mismanagement of employees experiencing stress. This reluctance was also recognised as the source of subsequent difficulties experienced by the employee on their return to the workplace. Finally, the actions taken by human resource workers and managers revolve around a process of determining the degree of intrusion into a worker's private domain that is warranted by an indication that the worker is psychologically unwell. Although the stresses associated with the workplace and the home cannot be distinguished easily, and spillover will occur, many managers still hold the view that discussion about personal

problems at work represents a transgression of some invisible boundary. As a result, potentially preventable conditions in workers may not be addressed.

Lack of Job Redesign Skills

One of the most important functional competencies within the human resource management is job design and appropriate selection. Proficiency within the area of job design is not only crucial to the overall strategic management of human resources but is also imperative in relation to human resource planning. Significant technological advances, such as the increased use of computer assisted design and manufacturing, has impacted greatly on workers and employment opportunities within a number of industries (Anthony, Perrewe & Kacmar, 1993). This impact has led to downsizing within those organisations and, as a consequence, increased expectations for productivity of the remaining workers. The impact of a poor person-job match (i.e., where worker skills do not meet the job demands or where an employee is not correctly trained to perform a job) are immense, as both the effectiveness of the organisation and the individual worker are likely to suffer (Browne, 2000).

Considerable research has confirmed that workers' health is influenced by the quality of job design (Anthony et al., 1993; Terra, 1995). However, the design of many jobs has changed only minimally, despite the dramatic move towards the current highly competitive and technologically powered marketplace. This situation has lead to decreased performance levels. Indeed, in highlighting the long-term consequences of poor job design, Terra (1995) purported that rigid task structure or the failure to respond to the need for changes in job design has become a "de-motivating factor in further learning and development" (p. 265).

A recent Australian study of occupational stress within the nursing profession (Healy & McKay, 1999) found that although many participants were satisfied with their current position, 67 percent reported that they had contemplated alternative occupations. These researchers found that effective job redesign would have minimised the effects of work

stress in this environment. The trend for experienced staff to leave their jobs, or even report an intention to leave, is a critical issue for management. Job redesign therefore, may assist in improving working conditions thereby reducing the stress confronting these workers and retaining valuable resources in the workplace.

Gandham (2000) proposed that jobs require a clear design and purpose with periodic assessment of the design and the worker. This will identify training and development needs, assess employee workload and productivity, investigate ergonomic and environmental aspects, and examine general health and safety. Indeed, job redesign, as shown in a recent experiment in the Netherlands, significantly influenced indicators such as absenteeism (Terra, 1995). However, the participation of the employee within this process of job redesign is essential. Despite the impact on the worker's health and overall organisational productivity and associated costs, this inclusion and participation is relatively rare (Terra, 1995). Indeed, Sauter and Keita (1999) emphasised the need for a broader research agenda, focussing not only on the identification of health risks within a changing work-force, but also incorporating intervention strategies to decrease the occurrence of occupational stress through increased attention on job redesign.

Inadequate Performance Appraisal and Counselling Procedures

When workers who are experiencing stress begin to disengage from the workplace, it is likely that there will be some indicators at the individual level, including a decline in performance, anger and absenteeism or sick leave. Often these indicators go unnoticed until such time as a major issue arises. However, when the indicators are noticed, the response of human resource managers or supervisors can be a significant cause of further decline in the worker. Indeed, Grundemann (1999) noted that the most common way in which European organisations attempted to reduce absenteeism was by tightening the leave procedures and putting workers under closer scrutiny. This practice may create even greater pressure on workers.

For instance, noticeable performance decline usually instigates a range of performance appraisal and counselling strategies that, if not managed well, are invasive and add to the level of stress being experienced. Once performance decline has become significantly problematic, managers tend to operate in a legislative and industrial relations context rather than in any humanitarian capacity. Consequently, internal human resource policies and adversarial interactions become a driving force. As noted by Buegre (1999), aggression is often a consequence of insensitive treatment by employers. However, aggression against an employer can be expressed in the form of industrial relations action or a claim for psychological injury. Thus, the lodgement of a stress claim can become a protest (Snell, 1996). This course of action is justified by the fact that, at this stage, legal procedures are the normative way of operating in that work environment.

Inability to Manage the Diversity of the Workforce

The globalisation of work and the changing nature of the workforce to include a diverse range of cultures has impacted greatly on internal policy development within organisations. There is a need for organisations to respond favourably to broader legislation that supports groups at risk of marginalisation, such as individuals with disabilities, women, ethnic minorities and indigenous populations. This requirement has meant that human resource managers must operate in a more complicated and challenging decision-making environment for which they may be ill-prepared.

With regard to diversity, the literature on occupational health and safety is limited. Kelly-Radford (1999) noted the critical importance of the potential for discrimination to occur in the selection process, especially as a direct result of poorly designed stress scales based on majority populations. For instance, issues associated with gender, ethnicity and language difficulties, and psychiatric disabilities have not been adequately dealt with in the literature on selection processes. Research has also indicated that discrimination is a strong predictor of health outcomes for workers in an ethnic minority group (Kelly-Radford, 1999).

Other structural changes within the Australian workforce that create a challenge for human resource managers is the increasing education level among workers (Kramar, McGraw & Schuler, 1997). As a result, the current workforce is generally more knowledgeable, better informed and, therefore, potentially more productive (Cascio, 1995). The challenge for organisations is that as people become better informed, they generally become more cynical, less accepting of authority and more critical of management performance. Younger workers, in particular, are more likely to be critical of the decisions made by supervisors and more resistant to authority (Bessant, 1996). Consequently, internal policies relating to the management of human resources and practices within the organisation need to reflect and respond appropriately to this diversity if they are to contribute to worker health rather than worker stress.

Further, human resource managers must be able to manage the younger workforce and effectively respond to a workforce with a mixed set of values. It would be logical to assume that the internal policies from which these managers operate have been "developed to carry out chosen strategies and that they reflect cultural and structural realities" (Nankervis, Compton & McCarthy, 1996, p. 40). In reality, however, internal organisational policies can contradict external policies regarding cultural or social diversity, and may at times constrict managers in their ability to respond appropriately. This internal conflict creates significant difficulties for human resource managers.

The Demise of Unionism and Employee Participation in Decision-Making

Positive relationships between employer and employee, active encouragement to develop skills, and a feeling of involvement all contribute to a positive psychological contract, which in turn leads to improved productivity and job satisfaction (Rosseau, 1995). Methods for ensuring employee involvement and participation in organisational issues such as work processes, job design and working conditions has been a concern for specialists within the area of human resource management for decades (Nankervis, Compton & McCarthy, 1996).

In this regard, unions and the principle of industrial democracy have enhanced the quality of working life for Australian employees by formulating a psychological partnership between employees and management. In essence, industrial democracy enables employees to participate in the decision-making process about their work and employment conditions. McCarthy and Stone (1989) noted, however, that many attempts at implementing industrial democracy within the workplace was purely cosmetic as "managers were fearful of having their authority eroded" (p. 41). They further purported that organisational efforts to accommodate industrial democracy were perceived as being questionable by employees. Indeed, according to Hearney and Joarder (1999), workers who perceived themselves to have been the victim of unfair treatment by their employer were likely to view any work-site health promotion programmes as being efforts of social control rather than vehicles for personal growth or organisational improvement.

In terms of participation, the Australian Workplace Industrial Relations Survey (AWIRS, 1995) reported that 80 percent of workplaces conducted regular formal meetings between employees or their supervisors and management. However, the influence employees perceived themselves as having in relation to their job varied considerably across occupations. Managers and professionals reported high levels of influence, while plant or machine operators, drivers, labourers and related workers reported little influence.

A major contributing factor to this lack of participation is the demise of the tripartite arrangements that once existed in the workplace (i.e., with union presence representing employee opinions and propositions). Commonly cited reasons for the decline of trade union density and membership have included changing patterns of employment, corporatisation and privatisation and structural changes within the economy (AWIRS, 1995). Consequently, employees are increasingly required to independently negotiate work-related matters, such as employment contracts and grievances. As a result, the potential for participation in the decision making process has been reduced and the perception of being unsupported has increased.

Recent union-based research conducted with Australian workers' emphasised the fact that lack of involvement in management issues, namely lack of communication and consultation, were the most stressful conditions experienced by respondents (ACTU, 1998), thereby alluding to the need for more effective collaboration between management, unions and employees. This conclusion was confirmed by the reduction of stress reported among government workers following a collaborative tripartite intervention conducted in the United States (Gray, 1999). Interestingly, managers surveyed in the Australian union study also expressed concerns about their lack of participation in decision making, suggesting that lack of participation in the workplace may be a systemic issue that has infiltrated the entire organisation, or even industry in general, rather than simply reflecting the inability of individual managers to encourage participation among workers.

Failure to Adhere to Occupational Health and Safety Legislation

As organisations compete to gain a comparative and competitive advantage over adversarial opponents, pressures to adhere to government legislation and achieve 'best practice standards' become extremely apparent (Kramar, McGraw & Schuler, 1997). Through occupational health and safety legislation, federal and state governments within Australia attempt to enlighten employers about their obligations to safeguard employees. According to this legislation, a major priority for management should be an effective health and safety programme to save lives, increase productivity and reduce costs (Anthony, Perrewe & Kacmar, 1993).

However, for occupational health and safety policies and procedures to be effective within the workplace, they must be administered and implemented with commitment from all stakeholders including employers, supervisors, employees, union representatives and doctors. Without written policy documents and widely promoted management procedures, it is also unlikely that any injured and/or ill worker will have a rapid and safe return to work.

According to George (1999), the reduction in funding and resources for occupational health and safety within Australia has impacted significantly on both workers and organisations. There is a strong push for issues to be resolved at an enterprise level, thereby advocating that "employers and employees can sort the problems out themselves". Moreover, the implementation of occupational policies and programmes may be difficult in organisations where good occupational health and safety practice is viewed as pure expenditure rather than as an investment in human resources (Kramar, McGraw & Schuler, 1997). Consequently, there is a need for governments to actively promote occupational health and safety legislation and to adequately fund research into these issues that will observe the extent of adherence problems and propose solutions (George, 1999).

3.8 The Medicalisation and Legalisation of Stress

Many workplace stress claims arise from problems that should ideally be managed in the workplace rather than becoming medicalised and/or legalised. Vezina and St-Arnoud (1996) concluded that work stress has become a 'convenient idea' and is a repository for a range of personal and organisational problems which when "assumed to be too difficult to manage are relegated to the general classification of disease" (p. 55). As a result, the workplace causes of the stress often remain unrecognised and unmanaged. As McKenna (1996) claimed, employers can effectively avoid their responsibility through the processes of medicalisation and legalisation.

Toohey (1993) described three types of stress claims, two of which inappropriately involve medical and legal processes. The first type of claim is the 'reward' claim. This claim is often supported by management as a means of providing financial support to an employee who is close to retirement, but no longer coping, or as a way of relieving the organisation of the employee. The second type of claim is a 'retribution' claim, which is initiated by an employee as a form of punishment for 'poor treatment' received from the

employer. Although the medical system still plays an integral role in this claim, it is the legal system that becomes the focus.

The final type of claim is the 'retreat' claim where an employee withdraws from one or many work situations they have found difficult by using their symptoms as a source of escape. In this type of claim, it is likely that the inability to cope with work situations, as a result of any combination of causes, will produce feelings of distress and anxiety. These feelings are described as an illness by the worker and treating doctor. The workplace is seen as a precipitating factor, paving the way for a claim. Paradoxically, the blame that is directed towards the workplace is equally directed towards the worker because the primary focus becomes the individual and his or her illness. Perceiving themselves to be ill, workers no longer take responsibility for their inability to cope and organisations no longer take responsibility for the excessive demands they place on the employee. While workers receive ongoing medical treatment, the issues underlying their initial problems are likely to be neglected.

There are many complications created by the medicalisation and legalisation of the work stress process. First, the medical practitioner assumes a pivotal role in the remainder of the stress management process, which is unlikely to be conducive to rehabilitation. Second, the diagnostic tools that are required by a legal context are problematic and associated with stigma. Third, the legal need to determine whether or not stress is 'caused' by work is not met by a medical diagnosis, leading to confusion for workers when their claims are rejected. Finally, there are additional definitional problems that arise in a legal and statutory context.

The Dominant Role of the Medical Practitioner

Most jurisdictions in Australia have nominated the medical practitioner as the 'authorised decision-maker' responsible for the diagnosis and management of stress conditions. Other rehabilitation personnel rely on the medical practitioner to certify the condition and initiate or approve all treatment, rehabilitation, and return to work activities. To

successfully accomplish this task, the general practitioner must be able to make informed and fair decisions about the nature of the individual's condition, whether the worker's incapacity is related to work factors and what treatment is required. Further, the general practitioner requires a detailed knowledge of the legal and statutory framework that is used to determine and limit ongoing liability. In many cases, doctors do not have this necessary knowledge. As a result of this lack of knowledge, some jurisdictions, notably, South Australia, have altered the management system to include psychologists as decision-makers in cases of occupational stress. Nevertheless, certification of the worker still relies on the general practitioner, thus ensuring that an organisational problem becomes a medical problem.

Research conducted in Western Australia (WorkCover WA, 1999) has indicated that general practitioners can be effective in this pivotal role if they liaise pro-actively with employers in the management of workers' compensation claims. It was estimated that cost savings could be as much as $8,282 per claim, with better return-to-work outcomes. Proactive general practitioners were also more likely to have a positive attitude to the insurer and find employers willing to provide alternative duties to injured workers. However, the role of the medical practitioner in the claim management process has been inadequately researched to date (WorkCover WA, 1999). In one of the few studies in this area, Kenny (1995a) examined key rehabilitation stakeholders (e.g., employers, rehabilitation providers) perceptions of treating medical practitioners in the management of workplace injury. Although viewed as central to the return to work process, doctors were seen as a barrier to return to work for a range of reasons. These include inadequate knowledge of the insurance system and principles of occupational rehabilitation, lack of awareness of the concept of alternative duties within the workplace, and the provision of vague or over generalised medical certificates.

Imperfect Diagnostic Tools

Toohey (1993), in his review of diagnosis written on initial and subsequent medical certificates, revealed that in 26 percent of Comcare claims, the diagnosis was recorded

simply as ‘stress’. Cotton and Jackson (1996) found that the diagnoses in stress claim cases varied widely, and could be classified as maladaptive personality styles (40 percent), vocational discontent (20 percent), adjustment disorder (20 percent), clinical syndromes (15 percent), or personality disorders (5 percent). Other than adjustment disorder, these diagnoses are not acceptable in most jurisdictions. In Australia, the diagnosis of a stress condition must be made in accordance with categories detailed in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV) (APA, 1994), or the International Classification of Diseases (ICD-10). Indeed, some Australian states (e.g., Queensland and South Australia) have insisted that the general practitioner use the DSM-IV categories when writing the initial certificate, a strategy that has met with mixed success.

When DSM-IV categories are considered, the most frequent and acceptable diagnostic categories used in stress claims include adjustment disorder, major depression, anxiety, and post-traumatic stress disorder. Most jurisdictions will readily accept a diagnosis of post-traumatic stress disorder because it is usually associated with a clearly identified event and easily understood symptoms. Indeed, it was in this context that work stress was first accepted as an appropriate basis for a compensation or common law claim.

There are a number of problems associated with the use of the DSM-IV in the diagnosis of work stress. First, despite the fact that the American Psychiatric Association legitimised the concept of stress-related psychiatric illness by including the diagnoses of adjustment disorder and post-traumatic stress disorder in its DSM classification system, the role of stress as a precipitator of psychiatric illness has been controversial (Eliashof & Streltzer, 1992). In this regard, the DSM states that the "characteristic features and etiology of the conditions have been minimally studied and are not well understood" (p. 298). Prove (1996) concluded that the DSM-IV was never intended to be used as diagnostic tool in a legal setting. It was intended to assist in the conceptualisation of disorders and the standardisation of treatment and research. There is no assumption in the Manual that “each category of mental disorder is a discrete entity with absolute

boundaries dividing it from other mental disorders or from no mental disorder" (p. XXII). The Manual cautions that a diagnosis does not carry any implications regarding the cause of mental disorder and that inclusion of a disorder does not require any knowledge about its etiology. This lack of consideration for the question of causality means that the categorisation of illness is of limited value in the claims determination process as the mere existence of a condition is not a sufficient reason to allow a work-related claim. Despite this situation, the DSM-IV has become the basis of legal criteria for the diagnosis of work-related psychological disorders.

A second major problem with the use of the DSM in claim diagnosis is that the diagnostic categories, criteria, and descriptions in the Manual were designed to be used by individuals with appropriate clinical training and experience in diagnosis. It is important that DSM-IV not be applied mechanically by untrained individuals. When discussing the use of DSM-IV in forensic settings the Manual contains several cautions. Specifically, the Manual refers to the 'imperfect fit' between the questions of concern to the law and information required for a clinical diagnosis. In most situations, the clinical diagnosis of a DSM-IV mental disorder is not sufficient to establish the existence of a 'mental disorder', 'mental disability,' 'mental disease', or 'mental defect' as would be needed for legal purposes.

Unfortunately, further diagnostic problems arise in relation to the severity of the disorder. The Manual, for example, defines 'mild' as a condition where "few, if any, symptoms in excess of those required to make the diagnosis are present, and symptoms result in no more than minor impairment in social or occupational functioning". It can be possible, then, for someone with only minor impairment of work-related functioning to be given a medical diagnosis that can precipitate a course of events resulting in compensation. Thus, a reasonably minimally impaired worker may be denied access to his or her workplace for considerable time on the basis of the 'illness' or the processes involved in the management of the 'illness', leading to a decline in condition.

The Manual also explains that the diagnosis of 'mental disorder' requires that there be "clinically significant impairment or distress". This criterion helps to establish the threshold for the diagnosis of a disorder in those situations in which the symptomatic presentation by itself (particularly in a mild form) is not inherently pathological and may be encountered in individuals for whom a diagnosis of 'mental disorder' would be inappropriate. Assessing whether this criterion is met, especially in terms of role functioning, is an inherently difficult clinical judgement. It is often necessary to rely on information about the individual's performance from family members and third parties. Given the lack of diagnostic clarity in this area there can be considerable variability in diagnosis, even from one psychiatrist to another (where a reasonably high level of diagnostic expertise would be expected). London et al. (1988) concluded that the absence of an adequate method of assessing the functional capacity of the worker creates major difficulties for the entire compensation system.

A major pitfall of using the DSM as a diagnostic instrument is that any person who lodges a claim for compensation in relation to a work-related psychological injury will, by necessity, be recorded as suffering from a 'mental disorder'. The implications of this diagnosis are significant in relation to stigma and discrimination. Importantly, a great deal of attention is focused on the diagnosis of this 'mental disorder'. In reality, there is little advantage to be gained in determining whether a stress problem is a reactive depression, an adjustment disorder, a brief stress reaction, or a post-traumatic stress disorder. However, it will matter if a serious condition or set of circumstances is not recognised, such that the person fails to gain access to appropriate assistance as a result of the diagnostic debate.

Determining which diagnostic category to allocate to workers is an extremely difficult task for an untrained doctor. Adjustment disorder is a diagnosis that tends to be made when symptoms fail to meet the criteria for another diagnosis, which occurs with an estimated incidence of 5 to 21 percent in adults (APA, 1994). Examination of the criteria for adjustment disorder in the Manual (APA, 1994), reveals that this diagnosis can be

made with the "development of clinically significant emotional or behavioural symptoms in response to an identifiable psychosocial stressor or stressors" within three months of exposure to the stressor. The clinical significance of the reaction is indicated either by “marked distress that is in excess of what would be expected given the nature of the stressor, or by significant impairment in social or occupational (academic) functioning”. Andrews et al. (1994) suggested that adjustment disorder should be seen as occupying an ‘intermediate’ position between a normal reaction to stressors and more severe conditions such as post-traumatic stress disorder. The ICD-10 also specifies that the stressor should not be “unusual or catastrophic”.

Despite the frequency with which adjustment disorder is diagnosed, Jones et al. (1999) recently highlighted the lack of research that has been conducted in relation to this disorder, perhaps because of its status as a residual category. On reviewing 25 articles, they concluded that the validity of the construct could not be established. The problems that were identified with this diagnostic category included lack of specificity of symptoms, and behaviours, and lack of close links with environmental factors. In this regard, several researchers have suggested that if the symptoms of adjustment disorder are expected given the circumstances, the condition should not be diagnosed as a disorder, even if those symptoms are severe (Andrews et al., 1994). Indeed, it is possible that adjustment disorder should be seen as a common and expected response to stress -- whether it represents a pathological and diagnosable response remains unclear. In this regard, some research has indicated that workers who have received a diagnosis of adjustment disorder at first presentation are likely to later receive a diagnosis of personality disorder as the pattern of their functioning becomes clearer.

The diagnostic difficulties associated with adjustment disorder mirror the uncertainty that is found in other stress-related disorders, such as post-traumatic stress disorder (PTSD). PTSD is one of the most common diagnoses in the legal and compensation system, supposedly because there is an assumption that a direct relationship exists between an event and the stress symptoms. Ironically, however, this point has been a source of

debate among researchers in the area. Further, there is ongoing investigation into the reliability, validity, and diagnostic usefulness of the category within both compensation and clinical settings.

Marshall, Spitzer and Ebowitz (1999) reported that the diagnosis of PTSD was first officially recognised in the DSM-III in 1980. However, 'gross stress reaction' had been identified in the DSM-I in the absence of any criteria to assist with diagnosis. This category was described as a reaction in a "normal personality" to severe trauma, which was expected to resolve rapidly. While no relevant stress category was included in the DSM-II, the DSM-III (Revised) contained a requirement that symptoms had resulted from the presence of stressors that "would evoke significant symptoms of distress in almost anyone" and that they had been present for at least 30 days. Since the boundary between normative and pathological responses to trauma was unclear, it was felt that trauma-related diagnoses should only be applied to those individuals who had not shown clinically significant recovery after this period of time. The result of this restriction of the diagnosis was that people who displayed symptoms of PTSD, but were examined less than 30 days post-trauma were given a diagnosis of adjustment disorder. Marshall, Spitzer and Ebowitz (1999) saw this as an unsuitable process as the survivors of severe trauma would receive the same diagnosis as individuals who were experiencing relatively mild reactions to common life stressors.

The DSM-IV included a diagnosis of acute stress disorder in an attempt to address these problems. This category emphasised the presence of dissociative symptoms because they had been found to predict poor outcome and a likely progression to a diagnosis of PTSD after 30 days. According to Marshall, Spitzer and Ebowitz (1999), these deliberations about time periods and symptom characteristics have not satisfied the need to separate normative and pathological conditions, but have created an "illusion of pseudo-exactness" in the diagnosis of stress-related disorders (p. 1684).

Dobson and Marshall (1996) noted that the legal need to link symptoms to an event is a difficult if not impossible task, given the complexity of the relationship between stressors and outcomes. They also warned of the dangers of applying population statistics to prediction in individual cases, particularly within the legal setting. According to these researchers, the 'stressor criterion' appears to be the main source of contention because stressors cannot be considered independently of an individual's personality and their current circumstances. In other words, stressors must be considered "in the context of an individual's level of functioning before, during, and after exposure" (Dobson & Marshall, 1996, p. 219).

The inadequacy of the current diagnostic system is evidenced by the large number of people who have been irrevocably altered by their experiences, but do not fulfill PTSD criteria. These individuals are not eligible for compensation because a diagnosis is required. Significant questions have been raised regarding the fact that some people who have been exposed to multiple traumas that would satisfy the criteria in DSM, but do not develop PTSD. Clearly, "the precise elements that provide the necessary and sufficient conditions for the development of PTSD remain unknown" (Dobson & Marshall, 1996, p. 220). Similar to adjustment disorder, there is little support for the validity and reliability of the PTSD criteria as a diagnostic tool for clinical or legal purposes (Smith & Frueh, 1996).

Diagnosing Work-Relatedness

A major diagnostic question for the general practitioner concerns whether or not the condition is related to work. In a compensation system, doctors are asked to make a decision not only on the diagnosis of the condition but also as to whether that injury is, or could be, caused by or substantially related to work. The medical practitioner may never have seen the place of work, nor have a clear idea of what the worker does in the course of his or her work. The doctor can make some judgement about whether the stated cause of the injury is consistent with the cause, also provided by the worker, but can not be certain. If the worker indicates that he or she has not undertaken any other activity that

may have caused the injury, it is likely that the doctor will write a compensation certificate. Most medical practitioners have no training and understand of psychiatric or psychological injury to assist them in their decision-making and minimal understanding of the work stress process. Indeed, Toohey (1993) noted that initial certificates provided by medical practitioners tended not to mention work-related factors at all.

In relation to determining what aspects of the condition are work-related, it may be extremely difficult for medical practitioners to separate the current condition reported by the worker from any underlying conditions that may have existed previously, either diagnosed or undiagnosed, and have been 'aggravated' by the work situation. To complicate this picture, a pre-existing condition that has been undiagnosed may contributed significantly to the current distress that has been attributed to the workplace. In most jurisdictions in Australia, a pre-existing psychological or psychiatric condition does not preclude a worker from successfully making a claim for compensation. However, the medical practitioner must be able to determine that work factors (not excluded by the relevant legislation) rather than the pre-existing condition lead to the current condition. Further, he or she must be able to determine when the aggravation of that condition caused by the work-related factors has ceased and the 'current incapacity to work' is, therefore, related to the original condition. When this decision is made, compensation should cease.

Higgins (1996) noted that medical practitioners responsible for the diagnosis and certification of a work-related stress injury, must first decide if the worker is suffering from an illness or is simply expressing dissatisfaction with his or her work, workplace or co-workers. He observed that although the reported symptoms may exist, they may not be associated with a recognised medical disorder that requires treatment. On this point, Higgins stated that the medicalisation of the problem complicates the picture, particularly when a certificate deeming a worker unfit for work is issued based only on the worker's self-reported circumstances or feelings.

Higgins (1996) acknowledged that there may be other pressures on the doctor inherent in the doctor-patient relationship, that may make it difficult for the doctor not to certify the worker. For instance, doctors could feel that they are 'forcing' the worker back into an unpleasant situation if they do not provide certification. However, Toohey (1996) observed that using the label ‘medical diagnosis of work stress’ can be a form of communication by which workers verbalise their emotions. They may, at some stage, verbalise these emotions to their general practitioner and, as a result, will receive a medical certificate for a condition called ‘stress’. This certification provides the worker with legitimate access to paid sick leave, social security benefits or compensation. As Toohey noted, stress is often used to describe the emotional upset that occurs in response to a management action of some kind. Because this emotional reaction occurred in a work setting, it is viewed as a medical ‘disease’ to be compensated. Toohey concluded that the area of work stress is plagued by a general “confusion of feelings, illness and compensability” (p. 56). This translation of 'feelings' into 'disease' ensures that relevant workplace factors remain unchanged.

The issues of malingering, exaggeration and fabrication need careful consideration in the compensation and medico-legal context. Research has suggested that some percentage of claimants may be "misrepresenting" their position in some way when claiming compensation, particularly in relation to psychological injury. In a discussion of faking, London, Zonana and Loeb (1993) stated that malingering could be defined as "falsification that is deliberate, conscious, and in full awareness of the individual. . . to secure advantages associated with illness by inventing, protracting, misrepresenting, and exaggerating the complaint" (p.602). Other ‘fake’ presentations may be unconscious in that the symptoms have been learned as a result of gains that are achieved from the symptoms. Alternatively, there may be a conviction on the part of the worker that they have sustained permanent damage despite concrete evidence that no impairment is present. These fake presentations are not intentional.

Researchers have discussed the difficulties experienced by clinicians in detecting exaggeration or malingering, and have warned that there is seldom enough evidence in clinical assessments to identify fake representations. Walters, White and Green (1988), for example, examined the utility of one of the most frequently used tools for the identification of malingers, namely the Minnesota Mutli-phasic Personality Inventory or MMPI. They found little effectiveness of the scale in distinguishing malingerers from non-malingerers among a male prison population and recommended caution in using it as a diagnostic device. In a second study, these researchers examined the effectiveness of clinical interviews, using clinicians of varying experience. They found that, in general, the ability of clinicians to correctly identify an inmate who was malingering was no better than chance. Interestingly, new graduates were marginally better than clinicians who were considered to be experts in their field and had considerable prior experience.

It is unlikely that the importance of causal determination will lessen. Workers compensation law will undoubtedly continue to struggle with the central issue of what constitutes a workplace injury in the area of stress. However, current trends indicate that an over-inclusive subjective standard will give way to an under-inclusive objective standard, in response to the increasing number of claims (London, Zonana & Loeb, 1988).

The Statutory and Legislative Environment

Western Australia passed the first workers compensation Act in Australia in 1902, and other Australian States followed suit in the next decade. However, the placement of a psychological condition within a legal and statutory context has many implications. A major consequence of this environment for workers who have experienced stress-related injury is that significant confusion is likely to arise when their claims are rejected. In many cases, both the worker and his or her general practitioner have concluded that work-related factors 'caused' their current condition. However, there is every likelihood that this conclusion will be rejected by the compensation or legal system. When a claim

is challenged or disputed, there is a strong likelihood of further conflict and a tendency to seek further legal or medical support to have the claim vindicated (Toohey, 1991).

The legal definition of work stress has raised many problems. For instance, Toohey (1996) noted that stress is not a "tangible or observable condition …[with]… a legal identity in the context of occupational health and safety and workers' compensation law" (p. 54). Indeed, in a legal context, the definition of stress has changed considerably over the years. In the 1970s and 1980s, workers compensation legislation in most Australia States was altered to allow claims for injuries associated with 'conditions of gradual onset' (Pearson et al., 1999). This change enabled the lodgement of claims for psychological injury that had occurred in the workplace over a period of time rather than only those caused by a traumatic event.

Workers compensation jurisdictions within Australia and around the world differ greatly in the way they define, determine and manage claims (O'Donnell, 2000). These differences are apparent in the legislation that governs compensation, the regulations and interpretations that operationalise the legislation, and in the procedural manuals that give operating instructions to the workers who administer the various schemes. Variations in the legislative frameworks have ranged from definitions that eliminate claims nominating chronic stressors as the source of the injury (e.g., Canada, and some parts of the United States of America), to more liberal definitions that make it difficult to exclude any psychological or psychiatric injuries (e.g., Queensland).

Occupational stress claims are often defined by considering both the type of injury and the workers response to the injury (Quick, 1999). For example, a physical-mental categorisation occurs when a worker sustains a physical injury and the psychological reaction to that injury becomes disabling. When a mental (psychological) provocation at the workplace leads to a physical reaction (i.e., stroke, ulcers, fatigue), then the claim is categorised as mental-physical. Finally, a mental-mental categorisation is made when psychological damage (i.e., post-traumatic stress disorder, severe depression) results from

psychological stimuli at the workplace. It is these claims that form the basis of the current report and represent the greatest problem in terms of management as they are difficult to attribute to the workplace. The same problem does not exist with physical-mental injuries as the cause of the psychological trauma is easily identifiable due to its physical nature. Similarly, mental-physical injuries are easier to attribute to the workplace as they are often associated with a traumatic event. The Canadian Compensation Board, in 1996, concluded that mental-mental injuries were the most problematic because "both the injury and the stimulus or the cause of the injury are not as visible as injuries or stimuli of a physical nature" (p. 3).

Several changes to definitions in legislation over time have influenced the entitlements of workers, ease of access to compensation for stress, and tests that must be satisfied in the certification and investigation process. For example, in Australia, Douglas and Bain (1996) mentioned the impact of the "Timb's Case" in 1993. The effect of the case was that claims for stress could be accepted when the contribution of employment was slight "thereby broadening the compensation option for employees whose stress might otherwise have been expressed through sick leave and ill health retirement or limited productivity at work" (p. 3). This judgement and others have triggered a series of changes to the legislation in an attempt to limit the liability of the compensation schemes.

Because of the difficulty associated with determining the causative factors involved in the development of the injury, most Australian jurisdictions have instituted fairly rigorous exclusion criteria and investigative processes. Most states in Australia have clauses in the legislation that exclude claims arising from 'reasonable management action'. In addition, work must be 'a significant contributing factor' or 'the major contributing factor'.

The claims determination process regarding occupational stress is particularly problematic in the legal setting as the 'facts' of the case are open to many interpretations. As a result of differing interpretations, decisions to accept or reject claims are often

made, overturned and then appealed on the basis of conflicting medical evidence, a situation that leads to considerable stress for the injured worker and delays in the instigation of rehabilitation. According to London, Zonana and Loeb (1988), even more significant difficulties arise when a claimant has a pre-existing mental disorder or when there are other significant non-work sources of stress, such that the difficulty of determining the probability of a causal link to the workplace is reduced.

3.9 Injury Management and Return to the Workplace

Occupational stress is a prominent issue because of the impact it has on productivity and health and the financial cost of this damage (Nowland, 1997). Significant cost reduction can occur through the utilisation of proficient rehabilitation strategies and interventions within the workplace. Unfortunately, however, the complexity of issues associated with occupational stress can impede the return to work process. The diverse range of key stakeholders each with their own, and often conflicting agenda, the dyadic and triadic coalitions that emerge within and throughout the process, and delays in referral and intervention can significantly impede the management and rehabilitation of a worker with a psychological injury. As Ellis (1995) pointed out, the integration of management policies, occupational health and safety legislation, human resource management practices, and effective rehabilitation strategies will provide a win-win situation for all parties. In contrast, Gunningham (1994) argued that, in certain circumstances, workers are entitled to protection from hazards, regardless of the losses incurred by organisations in terms of costs or productivity decline.

In its current form, however, rehabilitation remains a separate activity that may not occur until some time after a claim has been determined. Consequently, the return to work process is fraught with problems and barriers. Research documenting the obstacles to return to work for injured workers has highlighted three types of factors, namely factors about workers, factors that are associated with the system and modulating factors (Tate, 1992). Systems factors include the workers' compensation process, the adversarial relationship with the employer, human resource and health and safety policies and labour

policies. Subject factors include psychological, demographic and injury-related characteristics, while modulating factors are those that moderate or mediate the relationships between systems and subjects. If not handled in an efficient manner, the complexity of the dynamics operating within and between these three sets of factors can endanger the likelihood that the worker will be restored to a substantive employment role. Toohey (1995) concurred that occupational stress should not be viewed solely as a medical or health issue, but should be recognised as the potential or actual loss of human resources for the organisation thereby directly impacting on its effectiveness.

Systemic Factors

Systemic factors are a major barrier to return to work. For instance, research has consistently found that the adversarial system is particularly detrimental to the return-to-work process (O'Donnell, 2000). The adversarial system has been described as slow, inconsistent, costly and unable to predict the needs of individuals (Woodhouse, 1974). However, it is the contradictory incentives that are created by this system that has a major impact on rehabilitation and return to work. For instance, the focus of return to work initiatives is health and functioning, whereas the focus of an adversarial system is disability, pain and suffering (O'Donnell, 2000).

Tate (1992) argued that systems need to be carefully examined to fully comprehend the barriers to return to work. She noted that the successful return to work of injured workers is often obscured by the dynamics and complexities associated with the system. Tate also proposed that the motivations of key parties in the return to work process (i.e., insurers, workers, and employers) differ greatly from each other, and can be determined by issues of political and financial gain. These conflicting and hidden agendas can complicate the return to work process (Kenny, 1995a).

Key Stakeholders

The involvement of so many key stakeholders ensures the need for efficient information systems to disseminate essential information. In this regard, Kenny (1995a) reported that 85.5 percent of injured workers experienced difficulties communicating with key stakeholders, particularly employers and health professionals. It was further reported that injured workers were vulnerable because of the lack of information they received. Specifically, it is usually not the responsibility of any stakeholders in the system to inform the worker about progress of their claim. Therefore, the potential difficulties experienced by an injured worker, in attempting to negotiate a smooth transition into the workforce, can be extensive.

In a study of the relationships between injured workers and their employers in New South Wales, it was found that both parties were dissatisfied with the systems involved in the occupational rehabilitation process (Kenny, 1995a). The reasons for dissatisfaction cited included insufficient knowledge of legislative requirements, breakdown in communication among all relevant stakeholders, negative perceptions by the employer of the injured worker, and a lack of understanding of procedures associated with occupational rehabilitation. Furthermore it has been reported that conflicting and unreported agendas between stakeholders significantly influences return to work outcomes and creates barriers to teamwork (Kenny, Kable, Kroon, Quinn & Edwards, 1999). Therefore, rather than ascribing poor return to work outcomes solely to worker motivation, disengagement from the rehabilitation process should be examined in terms of systemic issues.

The perceptions of employers can also adversely effect an injured worker's opportunities for rehabilitation and return to work. Kenny (1995) described a conflict of interest between the needs of the employer and the needs of the injured worker. Whereas workers may have been formerly described as loyal employees, once injured, they are inadequately treated. The rationale to support adverse employer perceptions is not unlike the 'deviant role' imposed upon an individual with a disability by society

(Wolfensberger, 1991), whereby the injured worker is clearly transgressing the principles of productivity and cost containment and is therefore viewed as 'deviant' (Kenny, 1995). Consequently, the unwillingness and inflexibility of an employer, in successfully accommodating the injured worker within a rehabilitation programme, makes for a protracted return to work. Kenny (1998) further purported that peer pressure by co-workers and supervisors within the workplace resulted in poor rehabilitation outcomes. Specifically, when peers and supervisors of an injured worker fail to accommodate the injured worker's needs within an 'alternative duties' programme, substantially compromised an otherwise effective return to work programme.

Delays to Return to Work

A potential reason for the significant increase in costs associated with stress-related claims is the delay between lodgement of claim and acceptance of liability (Comcare, 1990), that usually enables the return to work process to occur. An earlier enquiry (Woodhouse, 1974) found that the need to make determinations of negligence prior to the initiation of therapy and rehabilitation provided a major disincentive to return to work. Although there has been little empirical evidence in this regard, it has been suggested that early intervention should prevent the development of ingrained psychosocial problems and the 'sick role' that can inhibit return to work (Russell, Young & Hart, 1995). Hood and Downes (1985) found that referral to rehabilitation within three months of injury resulted in a 47 percent return to work rate. This figure reduced to 33 percent within one month and only 18 percent within a year. In this regard, the Grellman Report (1997) highlighted shortcomings associated with delays in the initiation of occupational rehabilitation within the New South Wales workers compensation system. The report encouraged a focus on proactive management and early intervention strategies, and placed a strong expectation on employers and insurers to 'aggressively manage' the injury and return to work process. As noted by O'Donnell (2000), rehabilitation and return to work is likely to be most successful when adequate care is provided as soon as possible after the injury.

Financial Benefits

The wage replacement component of workers compensation has often been cited as a disincentive to return to work (Walker, 1992). In this regard, compensation payments do not cease until the injured worker returns to work, or alternatively, when the employer is able to demonstrate a change within the injured worker's employability. Moreover, individual initiatives to return to work are often compromised by disability payments (Roessler, 1988). In fact, Hester and colleagues (Hester et al., 1986) cautioned that a wage replacement, if in excess of 75 percent of the injured worker's original salary, would lessen the likelihood of a return to work. Furthermore, Walker (1992) indicated that as injured workers are often reliant on the employer or rehabilitation provider to locate suitable employment they are usually not compelled to seek alternative employment options and are therefore receiving monetary rewards for little or no action. This inaction is frequently condoned by the treating medical or legal practitioner (Kenny, 1998), in that 56.7 percent of injured workers unable to temporarily work were advised not to return to work until completely fit. Furthermore, 61.5 percent of workers who continued working were recommended by the doctor to discontinue work until they were completely fit.

Stigma of Returning to the Same Workplace

Shrey (1993) noted that rehabilitation is often conducted outside the workplace, with little regard to the work environment, issues associated with labour relations or job redesign or modifications. Returning to work is not only dependent on the recovery of the worker but is also dependent on the perceived stressors within the workplace. Indeed, Russell, Young and Hart (1995) concluded that it is extremely arduous to return a worker to an environment that is perceived as stressful.

In this regard, many injured workers report feelings of alienation from the workplace as a significant negative factor influencing their return to work (Kenny, 1995). Predominantly emanating from negative perceptions from employers, co-workers and supervisors as a

result of their workers compensation claim, this estrangement may significantly impact on their subsequent treatment within a return to work programme. This situation results in a situation of learned helplessness for workers (Seligman, 1994) in that even their best efforts to return to work appear to be unsuccessful for reasons beyond their control (Walker, 1992). Walker (1992) adeptly described the loss of control experienced by an injured worker within the compensation system and concluded that this situation substantially affected motivation.

Negative attitudes in the broader society have also been cited as a contributing factor that can impact on the occupational rehabilitation process (Goodman & Shaw-Johnson, 1986). Stigma, perceived as being rejected or shunned by others, is often associated with psychological illness and mental disorders (Burdekin, 1993) and is often encountered within vocational and occupational rehabilitation. Indeed, the perceived stigma associated with the lodgement of an occupational stress claim may impose further barriers to implementing early intervention strategies and a successful return to the workplace. For example, the fear of being viewed as a 'bludger', may inhibit an employee reporting early symptoms (CCH Australia, 1990). Furthermore, following the lodgement of a claim, the notion of eventually returning to the same workplace to face potentially negative attitudes of co-workers or supervisors, may provide a further deterrent for injured workers.

Certain work cultures have been found to be particularly inhibitive to the progress of rehabilitation. For example, early intervention may be compromised by the perception of collectivism such as that found within the military. Winslow (1998) alluded to the institutional value of the group as paramount and the incomparable significance of the team. If full support of the team is not provided, a soldier risks ostracism. Therefore, the soldier who experiences a psychological injury such as occupational stress, may be reluctant to report the injury and receive appropriate interventions due to the risk of being perceived as 'weak' and failing his platoon.

Following an injury experience, an employee may encounter apprehension and fear due to the experience that other workers have had undergone within the workers compensation arena (CCH Australia, 1990). In addition, an injured worker may not posses adequate information in relation to the workers' compensation scheme (Kenny, 1995) and be reluctant or unwilling to seek facts, therefore elevating fears for the future and frustrations associated with the subsequent loss of control.

Demographic Factors

General factors that may impede the return to work process include the impact of the stress claim on the injured worker's family, gender, and the ethnic origin of the worker (i.e., non-English speaking background). For example, role changes as a result of injury may precipitate changes within family relationships or the injured worker may receive non-contingent rewards from family members, such as increased attention, as a consequence on their condition (Walker, 1992). Clearly, this alignment towards maintaining a 'sick role' may impede the return to work process.

Research has indicated the increasing numbers of women, especially married women with children (Young, 1990), are receiving services within the rehabilitation system. Skues and Kirby (1995) found gender differences in both coping with occupational stress and the effectiveness of stress management intervention, indicating that women are more vulnerable to work stress. Furthermore, women are more likely to be employed in those occupations that demonstrate a high risk for occupational stress, such as education, community and health services. Therefore, to be effective, programmes need to accommodate the specific needs of both genders. This accommodation of gender is particularly important as research findings are contradictory in terms of successful return to work outcomes across males and females. For instance, some studies have found that women are more likely to return to work (Hester et al., 1986), others that men are more likely to return to work (Smith & Crisler, 1985), and still others have found that gender makes no difference in return to work outcome (Strautins & Hall, 1989).

The occupational distribution of migrant workers is predominantly within the manufacturing, process work and construction industries where there is a high rate of occupational injury in general (CCH Australia, 1990). However, these workers are also at risk of psychological injury that is difficult to both recognise and treat as a result of their language barriers. Consequently, it is possible that many migrant workers will be disadvantaged throughout the return to work process, especially as a result of their inability to comprehend the workers' compensation system.

Section 4

Management Strategies

Interventions and management strategies have been classified into three groups, namely primary, secondary and tertiary. Primary prevention seeks to alter the source of stress, making it the most fundamental approach to work stress. Such preventative strategies usually focus on the worker (e.g., stress management training), the workplace (e.g., job redesign, occupational health and safety strategies) or the interface between the worker and the workplace (e.g., selection processes). Secondary management strategies aim to reduce the severity of the consequences of stress before they become more serious. Consequently, secondary management strategies can also be considered preventative. However, in contrast to primary management, these strategies tend to focus mostly on the individual (e.g., Employee Assistance Programmes or EAPs, medical treatments and counselling). Tertiary management involves the treatment of an identified condition and the amelioration or restoration of that condition to a state of full health and functioning (i.e., return to work). The major tertiary management strategy that occurs in the context of work stress is case management. However, in recent years, variations of case management have emerged, namely injury management and disability management. The focus of these strategies is usually the individual, although the context in which the individual is functioning becomes crucial, particularly in relation to disability management. The following sections will review the characteristics of these major management strategies.

4.1 Primary Prevention and Management

Primary prevention strategies can be either reactive or proactive. Reactive strategies seek to identify and alter potential stress-provoking aspects of the workplace or workers, whereas proactive strategies are more likely to create working environments that are not

stress-provoking. These proactive strategies tend to focus on workplaces rather than workers and, as such, have a greater likelihood of success.

Despite the advantages of proactive primary stress management, there are several reasons why the focus has tended to be on individual-focussed interventions. Firstly, proactive approaches are often considered by management to be expensive to implement and disruptive to production schedules (Murphy, Hurrell, Sauter & Keita, 1995). Second, at a practical level, primary organisation-focussed prevention is more difficult to implement than individual-focused interventions (primary, secondary or tertiary) and guidelines for practice are rare. Third, individual-focussed strategies have a higher profile, allowing organisations to be seen to be doing something (Cartwright, Cooper and Murphy, 1995). Finally, those most often responsible for stress management are likely to be more comfortable with individual-focussed interventions (Ivancevich, Matteson, Freedman & Phillips, 1990).

As a result, there is a reliance on individual focussed programmes and a paucity of useful evaluation of organisational programmes. Indeed, a review of stress intervention evaluations (Williamson, 1994) indicated that the majority (21 of 24) focussed on individualised approaches to managing stress (e.g., stress management programmes, relaxation training). Only 3 evaluations focussed on interventions at the organisational level.

Individual-focussed stress programmes became popular in the late 1980s. Although the content varies considerably, most involve some component of cognitive reappraisal, relaxation training, exercise and nutrition education, coping skills training, or communication. According to Ganster (1995), the vast body of literature evaluating individualised stress management programmes has indicated that well-designed programmes can produce short-term improvements in distress among workers. However, there has been too little in the way of long-term follow-up to draw conclusions about their impact over time. Thus, while there is no doubt that such interventions have a place,

they do little to address the climatic and cultural sources of work stress (Dollard, 1996). These programmes have also been criticised on the grounds that they misattribute responsibility for stress management to the individual – workers must develop greater resilience whereas employers are not required to monitor or change the working environment. While assisting workers to protect themselves from stress will remain an important activity, the long-term reduction of stress requires more fundamental changes to the organisation (Schurman & Israel, 1995).

The Healthy Organisation

Stress prevention and management at the organisational level involves the creation of the 'healthy organisation'. Research into the concept of healthy organisations began in the 1960s (e.g., Argyris, 1964). It has been suggested that at the extreme level, a healthy organisation is one that has created and maintained a relatively stress-free environment where secondary and tertiary stress management is unnecessary (Cartwright, Cooper & Murphy, 1995). As this optimal situation is not likely to be achieved, researchers have suggested that healthy organisations are those that can maintain a relatively well 'balanced' scorecard (Robson, 1999). Beer, Eisenstat and Spector (1990) described a healthy organisation as one that balances the needs and demands of all stakeholders, namely consumers, stockholders, governments, societies and employees at all levels. They suggested that organisations cannot and should not be wholly focused on employees. Instead, healthy organisations must balance power between the range of interest groups. By doing so, outcomes can be enhanced for all groups (Jaffe, 1995). Healthy organisations will re-focus responsibility for stress reduction on the organisation, but paradoxically, will give more responsibility to workers by encouraging their participation in change management, involvement in job re-design, requests for honest communication and feedback, and understanding of the constraints in which the organisation operates.

Jamison and O'Mara (1991) suggested that healthy organisations are those that adopt appropriate methods of (1) job-person matching or job design that facilitates the expertise

and needs of workers; (2) managing and rewarding performance; (3) informing and involving workers; and (4) supporting lifestyle and family needs of workers. In order to achieve these methods, Wearing and Hart (1995) indicated that healthy organisations will develop efficient stress auditing mechanisms, ongoing monitoring systems, and methods of benchmarking against which change can be evaluated. Further, healthy organisations will manage change effectively by assisting employees to understand the need for change through clear communication, justification for decisions, a shared vision for the future and transparency in the decision making process (Baruch & Hind, 1999). This type of communication will allow workers the opportunity to revise and reshape the psychological contract they have created with their employer.

Thus, the core concept of a healthy organisation appears to lie in the redefinition and clarification of relationships, expectations, obligations and interactions between employees and organisations (Jaffe, 1995), rather than in simply redesigning jobs, training employees to cope with stress or effectively managing stressed employees. Some researchers have suggested that in redefining relationships, it is important to create a culture of empowerment, affiliation and reasonable achievement (Michela, Lukaszewski & Allegrante, 1995).

The steps involved in developing healthy employer-employee relationships will include (1) opening up communication channels by using appropriate employee opinion surveys to monitor stress levels, needs and stressors in the working environment; (2) conducting collaborative workplace and job redesign to enhance person-environment match; (3) engaging in worker empowerment and participatory management; and (4) developing family-oriented or socially supportive workplaces that provide buffers against the impact of stress (Kenny, 1995a).

These four steps appear relatively simple. However, research shows that implementation of organisational management strategies that apply any of these steps has been inadequate (Schurman & Israel, 1995). Schurman and Israel speculated that these disappointing

results could be attributed to the fact that change was not managed with the participation of the workers. Further, they indicated that change was managed at the level of the worker-job interface rather than at the broad cultural level. Consequently, local changes designed to reduce stress have often been nullified by cultural responses designed to restore equilibrium to the system (Kenny, 1995b). Unfortunately, interventions that seek to bring about systemic-level change are extremely difficult to implement. According to Schurman and Israel, any organisational intervention must be contextually-specific rather than "off-the-shelf". The intervention must engage relevant people in direct learning activities that allow them to understand the stress-process in their organisation at a systemic level. Finally, the intervention must encourage participants to be involved in the development of change strategies.

There is support for the fact that interventions at the organisational level are effective. For instance, in a Dutch study of ex-employees who were unable to return to work due to psychological injury, 35 percent believed strongly that they would still be working had preventative measures been taken (Houtman & Kompier, 1995). Surveys have shown that employees respond favourably to family-oriented personnel policies that offer flexibility to meet competing domestic and personal demands (Scharlach, 1995). Roehling, O'Brien, and Moen (1999) also found that flexible time-policies and support from supervisors were related to increased loyalty to organisations and decreased intention to leave, especially among married men of all ages. Researchers have found that organisations can encourage social support in the workplace by providing mentoring (especially for new employees), constructing work-teams with shared goals, and supporting opportunities for interaction (Joplin, Quick, Nelson & Turner, 1995).

An important source of support for organisational management was found in a nation-wide Norwegian intervention called "Health in Working Life" conducted during 1996 and 1997 (Mikkelsen & Saksvik, 1999). The programme involved worker identification of areas for change and factors for good working conditions. The workers then formed teams to discuss action plans and report to a steering committee. Open communication

was facilitated between management, employee representatives, the steering committee and work teams. Feedback was also provided to all participants about the success of the changes. The short-term effectiveness of this programme was significant, with reductions in reported job stress and improvements in management style.

The role of unions in the organisational management of stress has been recognised (Gray, 1999). Gray shows how traditional trade union activities were typically 'act and react' where employers act and unions react. Workers had very little real involvement in this decision-making process. In contrast to this traditional approach, Gray provides a case study from the United States of America where the union, the employer and the workers engaged in a collaborative discussion process of decision-making. Gray concluded that labour-management partnerships between employers, unions and workers will meet the needs of all parties.

Legislative Base for the Healthy Organisation

At present, the means by which healthy organisations are encouraged is occupational health and safety legislation. According to Biersner (1995), the origins of occupational health and safety legislation are firmly grounded in ancient times, given that evidence of occupational health and safety directives are contained in the Bible. However, the need for modern legislation was officially recognised during the industrial revolution, with some of the oldest frameworks for regulating occupational helath and safety originating in the United Kingdom and Germany (Mackay & Ullsperger, 1999). In 1981, the United Nations Ottawa Charter developed an overall strategy supporting the idea that prevention is necessary and that workplaces should be health-promoting rather than disease-producing.

In Australia, each industrial relations jurisdiction has an agency responsible for administering and enforcing occupational health and safety legislation. This legislation includes a definition of the duty of care expected of an employer. In this regard, the Comcare system stated that an employer must take all reasonably practicable steps to

protect the health and safety of employees. Duty of care usually includes the provision of safe systems and plants, adequate facilities for the welfare of employees, and workplaces that are without risks to health. In addition, employers are required to provide necessary information, instruction, training and supervision in appropriate languages to assist employees to perform their work safely. Employers are encouraged to adopt a risk management protocol that will enable them to identify and assess workplace hazards, eliminate or minimise the likelihood of exposure to risk, and introduce administrative controls, protective equipment and programmes.

In implementing duty of care, employers are expected to apply the relevant codes of practice and standards. However, in the area of occupational stress, no such codes or standards exist. As a result, while some Australian organisations have embraced the legislative changes that require the provision of health and safety legislation, others have only minimally complied with these requirements (Kenny, 1995). Indeed, despite legislation, the implementation of work place health and safety regulations is problematic throughout the world. For instance, in the year following a Norwegian regulation that all businesses, regardless of size or sector, must implement internal controls over their health and safety, researchers found that appropriate action was 'non-existent'. Further, a significant number of employer complaints were received about the regulations over the same period (Nytro, 1999). In the European Union, the Framework Directive on Health and Safety at Work has not encouraged preventative strategies (Grundemann, 1999). Further, as found in Portugal, there is an increasing gap between private and public initiatives in the area of health promotion in the workplace, leading to inequities for workers employed in the private sector (Graca, 1999). Inequities are also associated with differences across various jurisdictions, as found in Canada where occupational health and safety and workers compensation legislation are managed by the Provinces (Lippel, 1999).

In contrast, some data from the United States has suggested that, when given the choice of joining an organisational health management programme or being placed on an

inspection list, most employers chose to implement a programme (Most, 1999). This finding indicates that regulatory action can be used successfully to encourage employers to develop appropriate strategies.

In relation to work stress, the variability of the area leads to significant difficulties in applying blanket legislation. Biersner (1995) suggested that it is necessary to develop discrete standards in relation to well-researched stress conditions, especially those that have measurable physiological or biochemical indicators. For instance, work conditions that are well documented and clearly associated with negative outcomes, such as rotating shift work, repetitive activities, and violence in the workplace, are those that lend themselves to occupational health and safety standards. Specific standards in these areas would allow employers to define their risk prevention targets, identify the most appropriate hazard control procedures and enable the monitoring of performance. Briersner based his argument on the fact that the development of standards in occupational health and safety legislation can take many years. This type of effort may be wasted on the development of generic standards that simply cannot be upheld in the face of judicial scrutiny. In contrast, specific standards are containable and can be enforced appropriately. The negative implication of this approach is that the causes of stress in the workplace that are more difficult to define remain unenforceable. Clearly, even in the context of occupational health and safety legislation, there is a strong need for organisational commitment to the development of healthy workplaces.

4.2 Secondary Management Strategies

Any discussion of the 'secondary treatment' of occupational stress implies an intervention aimed at a dysfunction present in the individual. This level of management is provided primarily by medical practitioners, counsellors and clinical psychologists. In this regard, there are several types of treatment delivery depending on which one of these professionals is the primary provider of the treatment. Unfortunately, like many other matters concerning occupational stress, there is little agreement between the various providers as to the preferred treatment for stress. An area of secondary management that

has received a great deal of attention in recent years is the Employee Assistance Programme (EAP), although there are mixed findings regarding its success.

Medical Management

General practitioners are usually the first point of management for a psychologically injured worker and tend to be the main treatment provider throughout the duration of a claim. In most cases, however, general practitioners have little special training in occupational medicine, or the concepts of occupational rehabilitation, which can lead to difficulties (Workplace Rehabilitation Manual, 1990, p. 129). For instance, some doctors may prescribe long periods of rest as a treatment for workplace injuries, even though this can simply reinforce the sick role and make return to work even more difficult.

There has been some consideration given to the predominance of the medical model in the ongoing management of claims. Some dangers are highlighted by Toohey (1996) in that the medicalisation of the problem may lead to delays in recovery and return to work through the transfer of power from the worker or workplace to the medical practitioner. He stated that in the patient/doctor relationship, it is the doctor who retains control of determining appropriate behaviour and the criteria for moving from illness to wellness. The doctor can also foster dependency of the patient, and transfer responsibility from the patient to doctor. The patient, therefore, need not exercise responsibility for his or her own actions because he or she is sick and, as such, has diminished responsibility.

Eliashof and Streltzer (1992) give further cautionary advice concerning medical practitioners who may feel that they need to advocate for the worker. They noted that therapists could join the worker in the contention that adverse working conditions caused symptomatology. In some cases, this advocacy role that was assumed by doctors included writing letters to insurance companies and employers, insisting that significant changes be made in the work environment. Although the workers perceived this advocacy to be an extremely supportive action, it tended to reinforce pathology and dependency by implying that symptomatic relief could only occur in response to a change

in the work environment. The claims involved in these cases were associated with prolonged symptomatology.

The prescription of habit-forming medications is also a common form of management, with negative consequences for the individual. While current psycho-pharmacological treatment options more effectively target psychological problems with reduced side effects in comparison to previous medications, the consequences remain problematic.

Some time will usually have elapsed in the management of occupational stress before the doctor will refer to more specialist providers (i.e., psychologist or psychiatrist). Generally, referral will occur when the worker reports that problems are increasing despite lengthy absences from work and trials of different medications. Interestingly, there was a marked increase in cost per claim when general practitioners felt it was part of their role to provide counselling rather than referring to specialists (WorkCover WA, 1999). Late referral can result in weakening of work ties and confidence, and a strengthening of the 'sick' role within the worker.

Different jurisdictions express different expectations of medical practitioners in the management of psychological injuries, involvement in the return to work process and the length of expected incapacity due to psychological injuries. WorkCover South Australia, for example, state that it is not expected that workers with a psychological injury will be away from work, and definitely not for any extended period. They also expect a high level of initial contact between the doctor and the employer, with the responsibility for this contact placed on the doctor. Such contact must occur prior to certification. WorkCover Western Australia has encouraged early contact between the medical practitioner and the employer, and has developed a number of administrative mechanisms to facilitate communication between these two parties. At present, this success of these mechanisms still relies on the commitment of the both parties to co-operate and move towards quickly returning the injured worker to the workplace.

Psychological Management

Despite the wealth of research conducted over the last 50 years into the aetiology, presentation, and treatment of psychological problems, there is still no standardised approach to their treatment. Some attempts are presently being made (especially in the United States) to develop ideal treatment guidelines for common psychological conditions, although a great deal of work remains to be completed in this area.

There is, however, increasing evidence that cognitive-behavioural treatments are the most effective treatment for a variety of psychological problems, especially those relating to anxiety and depression (Clark et al., 1999). This has apparently been recognised by the directors of managed care in the United States of America who viewed cognitive behavioural treatments as acceptable in a setting where speedy, safe and reliable treatment outcomes are required for minimal funds invested (Peterson & Halstead, 1998).

In contrast to the passive treatment approach common with medical practitioners, psychologists tend to be more actively involved in treatment of the condition by helping the worker to build cognitive and behavioural skills to address the problems they are experiencing. However, psychological management approaches are complicated by the fact that it is reasonably common to find an underlying personality dysfunction in claimants (Cotton & Jackson, 1996). This dysfunction usually poses significant problems for the treatment of occupational stress. They warned that superficial counselling and stress-management interventions generally fail to engage with the 'core problems'

Post-traumatic stress disorder has been associated with significant debates regarding appropriate secondary treatment. Common treatments include psycho-education; systematic desensitisation; flooding; relaxation techniques; and EMDR (Eye Movement Desentisation and Reprocessing). The last of these options has attracted much attention in both psychological and general forums because of the unusual nature of the treatment. EMDR has recently undergone scrutiny to assess outcomes. Studies have varied in their

conclusions -- those who support the technique have highlighted methodological flaws in disconfirming studies, including inappropriate populations, inadequate initial diagnosis, variations to the treatment technique to suit experimental design and the use of untrained therapists (Greenwald, 1999). Those who do not support the technique have criticised the subjective nature of outcome measures and the problem of experimenter bias (Andrews et al., 1994; McNally, 1999). This debate continues and few conclusions can be drawn.

In contrast to PTSD, little literature is available concerning effective treatment for people diagnosed with adjustment disorder. In this regard, it has been suggested that a more individualised approach is necessary. Andrews et al. (1994) recommended that the aims of treatment for adjustment disorder should be to reduce any immediate danger to the worker or others and identify solutions to any immediate crises using strategies such as structured problem-solving. Given the frequency of this diagnosis for occupational stress claims, it is alarming that there is not more information available to assist with diagnosis and selection of appropriate management options.

Employee Assistance Programmes

The importance of effectively managing stress and an employee's mental health has significantly magnified as the increased pressures to remain competitive and to accommodate a more flexible working environment has prevailed. Consequently, many organisations have been proactive in assisting employees to better manage issues that negatively impact on work performance, such as organisational stress, by implementing EAPs. A current definition of an EAP is a "systematic, organised and continuing provision of counselling, advise and assistance, provided or funded by the employer, designed to help employees …… with problems arising from work-related and external sources" (Berridge, Cooper & Highley-Marchington, 1997, p. 13). Fashionable in the United States in the 1970's, the utilisation of EAP's within the Australian context has intensified in recent years, with larger organisations such as BHP, James Hardie, Qantas, hospitals and emergency services and all levels of government, providing confidential and professional counselling to staff (Kramar, McCraw & Schuler, 1997; Nankervis,

Compton & McCarthy, 1996). EAPs are prevalent in the majority of Fortune 500 companies (Hosie, Weat & Mackey, 1993) and more than 80 percent of large employers (i.e., those with greater than 250 employees) (White, McDuff, Schwartz, Tiegal, & Judge, 1996). Initially employed for use in drug and alcohol abuse at work, EAPs currently offer a more comprehensive approach to issues including stress management, mental health, bereavement, financial and legal concerns. In fact, today's 'broad-brush' programmes address a wide range of employee problems (Backer & O'Hara, 1991), and offer an enormous range of services (Quick, Sonnenstuhl & Trice, 1987; West & Mackey, 1993).

Nankervis, Compton and McCarthy (1996) described four guiding principles that have emerged as being effective components of an EAP. The first principle embraces the notion of the whole person. This principle acknowledges that difficulties experienced by an employee may or may not be directly associated with job duties or organisational characteristics, however work performance may be affected, thereby directly impacting on an organisations effectiveness.

The second principle, as highlighted by Nankervis et al. (1996), is that of confidentiality, wherein an employee's participation in the scheme is totally confidential. Consequently, the organisation is not aware of the identity or difficulties experienced by those employees accessing the programme. Given the negative perceptions often associated with metal health issues, this principle of confidentially was incorporated to encourage the participation of people experiencing occupational stress. However, a dilemma arising from this principle is the lack of communication between an organisation and the EAP counsellor should the issues experienced by the employee be directly related to shortcomings within the organisation, such as, job design, conflict with supervisors or rehabilitation issues.

A third guiding principle of EAPs is the combination of proactive strategies, incorporating promotion of employee health and development programmes, and the reactive approach of counselling interventions. Cartwight and Cooper (1996) described

these programmes as multi-modular, with the potential to enhance employees' strategies for coping and their ability to succinctly appraise stressful instances in a positive manner.

The final principle is professional counselling, which highlights the necessity for a professional therapist to assume the role of counsellor in assisting employees to address concerns. Although the work supervisor is perceived as a pivotal role within the EAP process, their aim is predominantly within an observational capacity (Kuzmits & Hammons, 1979). Furthermore, supervisors should be attentive to their limitations within the area of counselling (Nankervis et al., 1996), particularly as Australia enters into an era of litigious practices (Buon & Compton, 1990 cited in Buon, 1992). Critics of EAPs have criticised the utilisation of clinical psychologists within these programmes due to their limited exposure to organisational life, culture and knowledge of workplace dynamics (Deves, 1989).

As the nature and composition of EAPs vary considerably, there is debate about the effective characteristics for inclusion within such programmes (Nankervis et al.,1996). Some researchers have identifed four major characteristics or functions (Klinger, 1991) while others have identified up to sixteen (Bruce, 1990). There is greater convergence in the literature regarding the functions of EAPs in a tertiary context (i.e., rehabilitation, recovery of those suffering from work stress), than in the secondary context where EAPs should be most effective (i.e., preventing the decline of workers affected by stress) (Cooper & Cartwright, 1996 cited in Berridge et al., 1997). Nankervis et al. (1996), for example, highlighted the need for early intervention in potentially problematic issues, such as occupational stress, if a successful outcome is desired. While EAPs offer the most potential for early interventions, they have tended to focus predominantly on the consequences of stress rather than its prevention (Cartwright & Cooper, 1996).

Scanlon (1991) reported that EAPs have only provided partial remedies in relation to employee health and work life, and have not been successful in the provision of precise solutions to significant concerns. However, some guidelines for success were provided by

Berridge et al. (1997), who suggested that evidence of impaired job performance must be present for referral to an EAP. Other researchers have suggested that EAP specialist must provide consultative assistance to supervisors and managers (Pouge, 1997). Inclusion of this requirement within a programme provides a collaborative relationship, whereby supervisors are relieved of the burden of counselling employees, and also provides personnel with the knowledge of not only when to refer, but also when referral is not an appropriate option.

A core function of EAPs, that is identified in the literature, is the use of constructive confrontation as a motivational technique when assisting employees to increase their job performance. Constructive confrontation offers the worker diagnosis and treatment for the underlying problem or issue (constructive), whilst concurrently presenting documented evidence of impaired job performance and the requirement to improve to an acceptable level (confrontation) (Roman, Blum & Bennett, 1987). The worker would therefore maintain his or her employment in the organisation whilst participating in an EAP and avoiding disciplinary action.

Other core functions seen to be essential to an EAP are the construction of both macro and micro linkages between EAP service providers and resources within the community (Bruce, 1990; McGowan, 1984; Pogue, 1997; Quick, Sonnenstuhl & Trice, 1987). By making these links, the EAP functions are not limited to an intra-organisational level. The community linkage orientation does not discount EAP practitioner's specialist knowledge of the workplace and specific jobs (Roman et al., 1987). It merely affirms that community assistance cannot occur to the optimal benefit of the employee without knowledge of workplace contingencies and, as such, linkages between community services and EAP staff will be beneficial for the worker.

Unfortunately, the haste and enthusiasm that can accompany the development and implementation of an EAP often fails to transfer into appropriate evaluation activities. As a result, there is a strong need for well-designed evaluation studies (Freeland & Lubin, 1988). Although a plethora of evaluation studies exist within the literature, the relative

newness of EAPs is reflected in the lack of rigour in the evaluation methods utilised (Csiernik, 1995). Furthermore, Berridge et al. (1997) argued that these studies typically focus on outcome of the programme rather than why a programme does or does not work (Perry & Cayer, 1992). Further gaps in the knowledge base result from the reliance on opinion surveys in evaluating EAPs. Although employee satisfaction surveys provide meaningful data with respect to perceptions of counselling services, they fail to assess other areas, such as acceptance and willingness to use the services, or the impact on organisational outcome measures (Kirk-Brown, 1998).

Clearly, in relation to its applicability to address issues and concerns associated with occupational stress, a well-defined, and properly implemented EAP has the potential to make abundant contributions when viewed as a integral aspect of organisation function. However, it is important that EAPs focus on secondary management rather than tertiary management once individuals have been labeled and diagnosed.

4.3 Tertiary Management Strategies

Tertiary management strategies are those that occur once the stress experienced by the worker has been labelled as a condition and the individual requires some form of rehabilitation or assistance to return to work. The most common tertiary management strategy that is used in relation to occupational injury is case management. However, in recent years, the concept of injury management has become popular as this approach focuses on the early management of the injury in the workplace prior to separation or degeneration of the employment relationship. A model of tertiary management that has been largely untested in Australia but offers significant potential is disability management. In its purest form, this approach should be particularly useful in the area of work stress as it links the continuum of management, from primary through to tertiary, and incorporates all key stakeholders. Although not utilised in Australia in this pure form, evidence from overseas has suggested that this may offer an extremely successful management paradigm in the stress area.

Case Management

It is well recognised that case management, a concept developed as a response to dysfunctional social service delivery systems, has emerged as an integral component in the tertiary delivery of human services. It has been widely embraced within the field of occupational rehabilitation (Austin, 1993; Ozanne, 1990). In essence, case management is a generic service delivery model that has been subjected to numerous definitions. For example, this concept has been defined by Akabas, Gates and Galvin (1992) as "a method of co-ordinating and integrating a range of social, health and rehabilitation services to enhance the functioning and quality of life of the individual, improve the quality of care, and conserve costs" (p. 125). Similarly, Weil and Karls (1985) define this concept as "a set of logical steps and a process of interaction within a service network which assure the client receives required services in a supported, efficient and cost-effective manner" (p. 2). Regardless of the specific definition, the underpinning ideals of cost containment and service coordination are the primary goals in the majority of case management systems (Austin & McClelland, 1996).

Case management is essential in the provision of occupational rehabilitation services, as a result of the complex nature of the rehabilitation process itself, and the large number of stakeholders often involved with a worker throughout the post injury/illness phase (Kenny, 1995). The key stakeholders involved in this process can include the worker, the treating doctor, the insurer, the rehabilitation co-ordinator (often situated at the workplace), and in some situations, the rehabilitation providers and solicitors (Shrey & Lacerete, 1995). Case management is, therefore, integral to insurance-based systems as it provides the vehicle by which the return to work plan is developed, coordinated and monitored. In fact, case management has been rated by several national studies of rehabilitation counsellors as a vital component of their work (Puckett, 1984; Roessler & Rubin, 1992; Wright, Leahy & Shapson, 1997).

In the Western Australian compensation system, it is recommended that case management could be undertaken by the treating medical practitioner, in conjunction with the employer and the worker. These parties collaboratively determine the combination of services that is required, and whether or not specialist clinical psychology or vocational rehabilitation is necessary.

Although the professional responsible for case management varies across jurisdictions, the core functions and underpinning principles of case management should remain similar. The essential functions of case management include (1) assessment of need, whereby an individual's unmet needs are identified pertaining to a specific situation; (2) planning/goal setting, whereby a realistic and relevant plan is developed with the individual to develop strategies to meet those needs; (3) coordination, whereby services are identified and access to them planned in a timely and logical manner to address individual needs; (4) implementation or linking, which involves the linking of the client to required services and the operationalisation of the overall case management plan; and (5) monitoring and evaluation, which involves both the formal and informal monitoring of the plan and the related outcomes (Austin & McClelland, 1996; Rothman, 1991).

In practice, however, the various providers of case management often interpret the concept differently, which has the potential to influence the success of the outcome. For instance, Kenny (1995) found that the understanding, perception and practice of case management varied significantly across different professional 'case managers'. Kenny's study highlighted the fact that medical practitioners perceive the 'case' to be the injury/illness, the insurers view the 'case' to be the claim, and the rehabilitation providers or co-ordinators perceive the 'case' to be the return to work outcome for the injured worker. The approach, assessment, co-ordination and evaluation of needs may vary considerably depending on these perceptions of the 'case' to be managed. For example, without appropriate orientation to vocational issues, a medical practitioner might consider a successful outcome for the injured worker to be the return to function and would, therefore, develop strategies and co-ordinate services around restoration of physical

and/or mental health. In contrast, a workplace rehabilitation co-ordinator, who assumes the role of case manager, may view the return to work as the primary outcome and, thus, focus the co-ordination of services that ensure the workplace is able to accommodate the workers return. These differing perceptions have the potential to cause confusion for the injured worker in relation to expected outcomes and responsibilities. The consequence of such confusion may be mistrust and loss of motivation to return to work. Although each of these stakeholders involved in the occupational rehabilitation process play an important role in the case management of the injured worker, perhaps, as noted by Kenny (1995), there is a need for greater consistency in both the understanding and application of this concept.

Of equal importance in the provision of case management is adherence to the principles that underpin it. These principles include, but are not limited to, ensuring individuality, client participation, cost effective and timely service provision, co-ordinated and comprehensive service provision and achievable goals. It is suggested that the above mentioned principles are often compromised in the provision of case management within the occupational rehabilitation arena. This is potentially a result of such factors as organisational constraints, legislative requirements, high caseloads and inexperienced case managers. Indeed, of significant concern in the occupational rehabilitation and compensation systems is the difficulty experienced by case managers who are not professionally trained when attempting to coordinate the activities of professionals (Remenyi, 1989).

Although there has been a plethora of studies on the effectiveness of case management with some encouraging results, empirical evidence remains inconclusive. Some of the reasons for this lack of evidence include the difficulty in comparing contrasting case management programmes as they contain so many different situation-specific elements, and specific benefits only have been identified driven purely by vested interests (Akabas et al., 1992; Austin & O'Connor, 1989). In relation to work stress, minimal research has been conducted. Kenny (2000) described the problems associated with the role of case

management in stress claims. In particular, she noted that there are issues surrounding the management of 'power balances' between the various stakeholders (e.g., doctor, insurer, worker, employer). In her systemic model, Kenny recommended that case management interventions should be aimed at identifying the "dyadic and triadic relationships [between stakeholders] and at providing clients with a functional means of communicating their distress" (p. 388). This view is somewhat contrary to traditional models where the case manager is strongly identified as a client advocate or broker of services.

Nowland (1997) noted the "complete absence of literature dealing with tertiary rehabilitation of occupational stress" (p. 10). In addressing this absence, she also recommended that a systemic approach to case management of occupational stress injury and suggested that this approach should include several steps. First, the case manager should identify all the stakeholders involved with the worker. Second, the key people among these stakeholders should be clarified. Third, the case manager should find out the rules governing the behaviour of these key stakeholders and the relationships that exist between them and the worker. Fourth, the issues causing stress for the worker need to be identified. Fifth, the case manager and worker should establish which of the stakeholders can assist in overcoming these issues and any other return-to-work barriers. Finally, the case manager must develop a rehabilitation plan with clear goals to guide intervention. As Kenny (2000) noted, this systemic approach is yet to be tested empirically. However, it at least provides guidance about how to deal with some of the conflicting issues that often accompany instances of work stress.

Even in the absence of this systemic approach, case management is generally seen as a cost-effective and logical vehicle for promoting the return to work process. It is essential however, that the fundamental functions of case management are adequately understood and applied, if the case management process is to lead to a successful outcomes for the worker, the employer and the insurer (Roessler & Rubin, 1995). Irrespective of which key player becomes the case manager, they must be committed to the underlying

principles of efficacious case management and, in a workers compensation system, must pay attention to the complex systemic factors that plague this area.

Injury Management

To assist in effectively managing the phenomenon workplace injury management has been widely adopted in occupational rehabilitation and compensation systems (Shrey & Lacerete, 1995; Kenny & Jones, 1999). This concept is defined as an active process of minimising the injury and the impact of an injury or impairment (resulting from injury or disability) on an individual's capacity to participate effectively in the work environment (Shrey & Lacerete, 1995). WorkCover Western Australia (1997) described injury management as a "workplace managed process incorporating employer and medical management from the time of injury to facilitate, where practicable, efficient and cost effective maintenance in, or return to, suitable employment" (p. 37). This concept could, therefore, be conceptualised as a comprehensive, co-ordinated process using a combination of services designed to diminish the effect of injury, disease and/or illness upon the individuals ability and/or capacity to function effectively, competitively, and productively in a safe work place.

A major catalyst to the introduction of injury management within occupational rehabilitation was the Grellman Report (1997). This report identified short-comings in workers' compensation systems and highlighted the need for early intervention and proactive management to effect a timely return to work. According to several researchers (e.g., Burgel, 1991; Smith 1997), early intervention involves attention to the employee as soon as the injury occurs. To put the principle of early intervention into practice, immediate contact with all stakeholders involved in the injury management situation (i.e., the worker, the employer, the treating medical practitioner) is essential. This principle has been shown to significantly reduce the costs of managing an injury and minimising time away from the workplace. Indeed, some research has indicated that early access to injury management significantly promotes an early return to work (Heads of Worker's Compensation Authorities - HWCA, 1997). Furthermore, early intervention strategies

and early return to work programmes are more likely to result in decreased worker's compensation and disability costs, increased employer productivity and minimisation of lost work time (Shrey & Lacerte, 1995). At the outset it is important to recognise that to delay injury management is to jeopardise outcomes for the worker, resulting in a deterioration of the worker's condition and, therefore, their health. Injury management should also assist in diminishing the likelihood of litigation as there is more potential for the worker to remain aligned with the workplace (Shrey & Lacerte, 1995). This issue is particularly important in cases of work stress where the bond between the employer and the employee is extremely vulnerable.

Effective injury management also relies heavily on the principle of proactive management. Proactive management requires the timely use of employer-based resources and community based interventions (i.e., medical management services, gradual return to work programmes, possible modifications to the work place and physical conditioning), if the control and/or minimisation of costs and maintenance of work is to be achieved (Smith, S., 1997; Smith, D., 1994). The benefit of proactive management in relation to the return-to-work process is reflected in the reduction of time off work. For example, a recent study found that the implementation of proactive management strategies in a specific workplace resulted in a significant reduction in the number of lost work days -- 5000 over an eighteen month period (Smith, D., 1994). Reith, Ahrens and Cummings (1995) found that extended leave away from a workplace, due to disability/injury, has cumulative physical, psychological and social effects that negatively impact upon the recovery process. In essence, therefore, the sooner a worker returns to work – or indeed, remains at work -- the more likely he or she is to recover.

Clearly, the implementation of injury management principles is likely to result in positive outcomes for the injured worker, the employer, the insurer and, all other relevant stakeholders in the injury management process. In particular, it has been found that the active involvement of a medical practitioner with the employer is a beneficial arrangement for the worker (WorkCover WA, 1999). In the Western Australian system,

these parties collaborate from the time of injury and, thus, prevent the likelihood of protracted medical and clinical problems.

Disability Management

A relatively new variant on the case management and injury management processes that has not yet been adequately implemented or tested in Australia is disability management. This concept is defined as a "workplace prevention and remediation strategy that seeks to prevent disability from occurring or, lacking that, to intervene early following the onset of disability, using coordinated, cost-conscious, quality rehabilitation service that reflects an organisational commitment to continued employment of those experiencing functional work limitations" (Akabas, Gates & Galvin, 1992, p. 2). As described by Habeck, Kress, Scully and Kirschner (1994), the rehabilitation community is a natural resource to help employers meet the challenges of disability. Rehabilitation professionals who apply a true disability management approach offer employers the opportunity to examine their occupational health and safety strategies, implement primary prevention programmes, effectively prevent decline among employees who experience stress, and facilitate efficient return to work for those who are injured. As a result, employer costs will be minimised. However, as pointed out by Habeck and Munrowd (1987), rehabilitation counsellors will need to extend their skills and competencies, particularly in relation to organisational development, if they are to move from traditional case management or injury management to disability management.

Section 5

Methodological Issues

Since the end of the Second World War, there has been an exponential increase in the amount of research conducted into the predictors of stress. During the last two decades, much of this interest has focussed on stress in the workplace. For instance, Ganster (1995) identified many hundreds of academic articles or books relating specifically to work stress together with thousands of articles in the popular press and trade journals.

Despite the volume of research that has been conducted in this area, it remains difficult to draw conclusions, largely because of the vast array of methodological problems that have not yet been adequately addressed. Kasl (1986) has been a main critic of the work stress literature, pointing out that existing research has failed to establish even the notion that stress at work 'causes' negative consequences for workers. He pointed out that correlational research designs do not constitute evidence that 'stressors' contribute to negative outcomes. Other researchers (e.g., Ganster, 1995) have suggested that, as a result of poor methodology, even the assumption that work stress costs the economy a significant amount of money each year is debatable. According to Ganster, the only non-debatable issue is the amount of investment made by academic communities each year, replicating inconclusive research designs and further clouding the issue. These methodological weaknesses in the stress literature have lead to inconclusive and meaningless results in some areas, particularly in relation to the predictors of stress, while other areas have received insufficient research attention, namely, the claim management and rehabilitation processes.

One of the major difficulties in this area has been the simplistic conceptualisation of stress that has dominated much of the research. In conceptualising work stress, Cotton (1996) acknowledged that it is a multi-faceted construct. Consequently, it is likely that

stress will be caused by a diverse range of demands and changes rather than by any single event (Lazarus, 1990; Wagner, Compas & Howell, 1988). Although there is some debate about this issue (see Breznitz, 1990; Brown, 1993), the consideration of any event as a unitary stressor will severely limit the theoretical and practical utility of research findings (Somerfield & Curbow, 1992).

Nevertheless, in much of the research designed to investigate the predictors of work stress there has been a tendency to focus on the effect of only one or two variables. Although this univariate approach has the advantage of simplicity, many of the predictor variables that have been identified are likely to be subsumed by other variables if subjected to a multivariate analysis. Thus, the stress literature has become a "meandering unfocused giant" (Taylor, 1984, p. 2315) that is in need of clarity.

In an attempt to integrate several predictive variables and provide some clarity, researchers have proposed multivariate models (e.g., Lazarus & Folkman, 1984). Most of these models take a similar form in that they incorporate a range of resources or situational factors that contribute to the way in which the individual interprets the situation and copes with the demands placed on him or her. These factors combine in some way to create stress, which then leads to strain and the proposed consequences of stress, namely burnout, ill-health and turnover. While these models make a great deal of intuitive sense, there is little empirical support for their ability to account for a reasonable amount of variance in outcome (Dollard, 1995).

The lack of support for these models could be attributed to the fact that the stress process is too complex to be represented adequately by such parsimonious models. Indeed, it is likely that stress research is not yet sufficiently advanced to test the complex relationships that are likely to exist between variables. Few studies have adequately tested the range of mediated, moderated and additive effects of variables on outcomes, instead focussing largely on the direct relationships. While this knowledge may not sound important in a practical sense, in reality, interventions that are based on inadequate

research findings are a costly waste of time. There is a need to know how change in one variable will produce change in an outcome variable so appropriate policy and practice can be developed (Hart & Wearing, 1995). As Bond and Bunce (1999) noted, it his important to increase understanding of how work stress improves following intervention strategies, rather than simply knowing whether or not it improves.

The reliance on cross-sectional designs has also been a major flaw in stress research that has weakened the ability to conclude that relationships exist between variables. As Cotton (1996) noted, stress is a dynamic process that develops and changes over time. Cross-sectional studies do not address these facts. Further, variables that predict stress at any one point in time may not significantly predict it at a subsequent point in time. Longitudinal designs are essential to enable the temporal relationships between the predictor variables and subsequent stress to be identified.

Such designs also strengthen the ability of the study to draw conclusions about the direction of relationships that emerge from the data, providing the proposed predictor variables are measured at least twice during the study (Aldwin & Revenson, 1987). For instance, it is possible that initial levels of stress actually determine the level of the predictor variables rather than visa versa. Indeed, Lazarus and Folkman (1984) predicted the existence of such a circular model. Thus, to disentangle these complex relationships, it is necessary to partial out the effects of initial stress before testing the utility of the predictor variables. By predicting change in stress levels over time (i.e., stress with the effect of initial stress controlled) rather than stress at a static point in time, the research also acknowledges the dynamic nature of the stress process.

A third problem in stress research involves measurement in that the concept of stress has created significant difficulties for researchers seeking reliable and valid measures. Toohey (1993) noted that descriptions of illness/injury on medical certificates changed considerably across time, possibly a reflection of the imprecise and inaccurate definitions of stress and stress-related conditions. Smith and Frueh (1996) noted that the ‘private’

nature of stress symptoms (i.e., anxiety, depression, intrusive thoughts, avoidance), and the difficulty associated with confirming these symptoms objectively, are major sources of concern for the diagnostic process, the claim management process and the research process.

Researchers have confirmed that the reliance on self-report in the diagnosis of stress is a significant problem (Cotton, 1995) that needs to be addressed. Irrespective of the diagnostic instrument that is used, general practitioners will be susceptible to the reporting biases of the psychologically injured employee. Researcher-demand also presents a number of difficulties for stress research as participants may expect to experience stress in response to certain job characteristics, irrespective of whether or not they do (Barley & Knight, 1992). Simply asking workers about stress may enable it to be articulated and experienced, or may encourage the individual to reinterpret current feelings as stress. Stress is difficult to measure without influencing the respondent's experience, other than by using unobtrusive measures such as physiological indicators, sick days, or illnesses, which may be unrelated to stress in realty. Reliance on self-report measures continues to be a major weakness in all stress research (Cotton, 1996), but one that is difficult to address given the subjective nature of the concept.

The Stress and Support Survey (Gutierrez, 1999) represents an attempt by researchers to develop an international tool that assesses both the stressors and supports present in the current situation, the workplace and in the worker's personal life. To date, the tool has been validated in North and South American, European, Asian and South Pacific countries and has shown some promise as a diagnostic and research tool. However, standardisation is required to allow the creation of norms that can be used to identify healthy and unhealthy organisations.

Most of the research that has been conducted concerns the experience of stress, or it's proposed consequences, such as burnout, turnover, and job dissatisfaction. However, very little is known about the steps that occur between experiencing stress and lodging a

claim for psychological injury. Similarly, little is known about the claims management and return to work processes following a stress claim. These areas have been under-researched to date. In this regard, quantitative measurements are unlikely to provide useful information about these dynamic processes (Stoecker, 1991). Although the outcomes of activities such as case management and rehabilitation can be articulated and quantified reasonably well, the processes by which they occur are less tangible and cannot be measured at only one point in time. Researchers have suggested that qualitative research designs offer a viable alternative for examining such processes (Patton, 1991), particularly when those processes have not been thoroughly researched and are not clearly understood.

Determining the utility of various management techniques has been hindered by the fact that evaluation methodology is poor (Ganster, 1995). In particular, there is no long-term follow up and little assessment of the impact of primary, secondary and tertiary management programmes on actual outcomes such as absenteeism, burnout, sick days, accidents and productivity. Accordingly, it is difficult to estimate the financial impact of such programmes for employers, giving them little evidence about why they should invest in stress management. Systematic research is needed to evaluate interventions so that practice can be refined and developed appropriately (Cooper, 1999). In 1989, the World Health Organisation found that there was even less research in developing countries, despite the fact that they were rapidly industrialising and experiencing greater levels of the stressors identified in developed countries (Ostermann, 1999) and are in need of even basic research.

Section 6

Conclusions and Implications

This review has highlighted the fact that costs associated with stress in the workplace and claims for psychological injury are spiraling. As a result, occupational stress and workplace health have become issues of great concern over the last decade, both internationally and nationally.

The purpose of this review was to synthesise the vast array of literature that exists on the topic of work stress and draw some relevant conclusions regarding (1) the factors that are believed to contribute to the occurrence of stress and/or a claim for psychological injury and (2) the management strategies that are currently adopted in response to occupational stress. The review also aimed to identify areas where further research was necessary and the methodological flaws in existing research that needed to be addressed in that research.

To fully understand the phenomenon of work stress, the review first documented the process that most commonly occurs for workers who experience work stress. In identifying this process, a plethora of contributory and exacerbatory factors were identified. These factors included individual vulnerabilities, job demands, the organisational climate, the person-environment match, the appraisal and perceptions of the worker, human resource management practices, the medicalisation and legalisation of stress and some rehabilitation practices. In addition, three major management phases were identified, namely primary prevention, secondary and tertiary. The major management strategies used at each of these phases were reviewed briefly. Finally, some of the major methodological weaknesses that plague the stress research were outlined.

Although conclusions are difficult to make given the methodological difficulties that exist in the literature, some broad indications have arisen out of the review. These conclusions can be summarised as follows:

- A multitude of potentially causal factors have been identified in the literature and research has been unable to refine them, even using multi-variate studies. It is possible that attempts to clarify the 'causes' of work stress are fruitless.
- Researchers remain unclear about the types of relationships that exist between stressors and outcomes. This information about processes may be more useful in informing interventions as it instructs researchers about 'how' variables change, rather than simply indicating 'if' they change.
- The work stress process is a complicated, multi-dimensional, systemic and temporal process that is difficult to encapsulate in quantitative, empirical terms. Effort may be wasted in trying to simplify and fully understand such a complex phenomenon, rather than accepting its complexity and developing the most useful combination of management strategies.
- While personality characteristics show the greatest propensity to predict stress outcomes, they offer little in the way of foci for intervention and management activities.
- There is little evidence that stress at work actually leads to negative outcomes such as absenteeism, turnover, poor productivity or stress claim lodgement. Indeed, stress claim lodgement may be associated with other variables, such as the inability of workers, due to various constraints, to communicate their needs to employers. However, little is known about why stress claims are lodged.
- Variables associated with organisational culture show the greatest likelihood of predicting stress and the lodgement of stress claims. It is possible to modify these cultural factors through primary interventions within organisations. However, examination of cultural factors requires in-depth qualitative research.
- Organisational interventions that focus on primary prevention are proactive and offer the most appropriate solution to work stress. However, these interventions are the least likely to be implemented by employers due to perceived costs and disruption.
- Many management programmes are not implemented in the fashion in which they were intended, usually to the detriment of prevention activities. For instance, EAP programmes tend to manage at a tertiary level, rather than a secondary level, assisting

workers who have already lodged stress claims instead of those who are experiencing stress and require help. Even primary prevention programmes are often aimed at the individual workers rather than at the organisational demands or culture.

Probably the most significant conclusion to be drawn from this review is the fact that the entire area of work stress is plagued by methodological difficulties. Some of these difficultes are not easily addressed, particularly those in relation to the measurement and conceptualisation of stress. Clearly, normed and standardised measures of stress in the workplace are required if research in this area is to advance. The Stress and Support Survey (Gutierrez, 1999) represents one attempt to develop an international tool. However, while this tool has been validated in many countries, it is necessary to conduct large studies on normative populations. With standardised population data, it is possible to benchmark organisations and plot their progress against international criteria. With such an instrument, researchers can begin to identify healthy and unhealthy organisations, allowing the implementation of primary prevention.

The current review has also highlighted the need to examine the potential of injury management practices, and even the more integrated practice of disability management, potential responses to work stress. Injury management involves the early maintenance of an injured worker in the workplace and effective management of the injury. Although the goals of disability management are similar, in its true sense, this approach also involves the placement of rehabilitation personnel in the workplace in an attempt to actually prevent injury. In disability management, the function of rehabilitation personnel is to assist organisations to prevent disability through health promotion programmes and effective organisational change management. However, in the event that disability does occurs in the workplace, the aim of both injury and disability management is to facilitate a speedy return to work and minimise the negative consequences for all parties. To date, however, these approaches have not been fully evaluated.

Similar conclusions to these have been reached by other researchers. For instance, Cotton and Fisher (1995) concluded that the work stress area requires a comprehensive employer and public education and awareness campaign to address the stigma that is associated with psychological injury. They also concluded that large scale epidemiological studies and monitoring of stress in the workplace is necessary if the problem is to receive recognition and attention. Along similar lines, they concluded that the area requires methodologically sound research and programme evaluation to inform practices in future. Finally, they noted the importance of shifting attention to the primary prevention end of the stress management continuum.

In light of these conclusions, it is important to pursue the development of a standardised Australian work stress instrument, possibly based on the work that has already been conducted in other countries. Given its potential as a preventative paradigm, it is also important to examine the utility of the injury and disability management approaches. Although disability management has not been fully implemented or evaluated in Australia, the Western Australian system offers an unique opportunity to evaluate the issues associated with injury management. Some research has indicated that it could have successful outcomes for employers, workers compensation authorities and workers (Hollingworth & MacRae, 1996), as well as expanding the role and competencies of rehabilitation providers (Habeck & Munrowd, 1987). This approach is particularly important in the area of work stress, where prevention, or at least early intervention, is vital to the preservation of the employer-employee relationship.

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