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AN INTERACTIONAL MODEL OF OCCUPATIONAL STRESS IN HEALTH SERVICE EMPLOYEES

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ABSTRACT

This large scale study (869 participants from a mental health Trust) employed a questionnaire based on an interactional model of occupational stress to investigate (i) burnout in psychiatric nurses, (ii) occupational stress in medics and the professions allied to medicine, (iii) job satisfaction in health service management and support staff, and (iv) the moderating effect of social support in health service personnel. A range of analytic procedures were used including hierarchical regression analysis.

Levels of burnout in nurses were low overall, although a significant proportion reported higher levels of emotional exhaustion. Among nurses, negative affectivity and predictability acted as common factors across the three constructs of the burnout syndrome. Medics and professions allied to medicine (P.A.M.'s) reported similar levels of stressors to each other. Role ambiguity, role conflict and predictability, in combination with negative affectivity, accounted for most of the reported work related stressors of medics and P.A.M.'s. Levels of job satisfaction in management and support staff was on a par with their peers elsewhere. Role ambiguity, role conflict, job future ambiguity, control and non-occupational concerns had an influence on job satisfaction among management and support staff.

A significant proportion of nurses, medics and P.A.M.'s reported low levels of work support. Those most at risk in this regard appeared to be highly educated, community based, non-shift workers. Higher levels of support were associated with increased job satisfaction and lower levels of both emotional exhaustion and psychological distress.

The model adopted in the present study, although not necessarily applicable to all occupational groups, had utility in understanding the complex relationships between variables in this population from a mental health Trust. Despite common themes emerging across occupational groups, clear differences were also apparent, reinforcing the need for tailor-made interventions in occupational stress. The results also highlighted the necessity of including individual characteristics and non-occupational stressors in any consideration of occupational stress. Further recommendations for each occupational group and the NHS in general are discussed.

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PREFACE

Stress is seen as a priority area for intervention across Europe and the United States. No one occupation is considered immune from the effects of psychosocial hazards in the workplace and indeed health service personnel are often highlighted as 'vulnerable' in this regard due to the nature of the jobs they do. Any assessment of 'stress' is a complex undertaking and there are no universally accepted methodologies or procedures to adopt. The present study aims to investigate some of the relevant issues in a large scale survey of a range of health service personnel, including nurses, medics, professions allied to medicine, management, administrative/clerical staff and ancillary/trade staff.

Chapter 1 provides an introduction to stress theories and a review of the measurement of occupational stress. The literature on occupational stress is also reviewed in this first chapter in addition to a review of the relevant stressor, mediator/moderator, and strain variables. Chapter 1 concludes with an outline of the legislation relevant to occupational stress. *Chapter 2* discusses the methodological difficulties associated with research in the field of stress and introduces the theoretical model upon which this study is based. *Chapter 3* reviews the literature on occupational stress in health service personnel. The methodology of the present study, including sample selection, measures used, procedure followed and analyses undertaken, is outlined in *Chapter 4*.

PREFACE (continued)

Chapters 5 to 8 present the results of the present study. *Chapter 5* examines burnout in psychiatric nurses and the role played by stressors, intervening variables and strains. *Chapter 6* investigates occupational stress in medical staff and the professions allied to medicine by looking at the predictors of scores on a stressor measure. *Chapter 7* focuses on job satisfaction in health service management and support staff in an attempt to identify predictive factors. *Chapter 8* addresses the moderating effect of social support in health service personnel in reference to a number of stressors, both work and non-work, and strains.

The study conclusions and recommendations for both the UK health service and for future research are outlined in *Chapter 9*. All references used are listed in *Chapter 10*.

CHAPTER 1:

Stress and Occupational Stress

1.1 Introduction

Stress as a concept has been written about, in any detail, since the late 1800's. It has been defined both as the independent and the dependent variable (Cox, 1985). Some authors believe stress to be too complex a phenomenon for investigation (Schuler, 1980) and, according to some, there is a danger that the term 'stress' will soon cease to have any scientific utility (Herbert, 1999). Regardless of this, stress at work is a priority issue for the European Agency for Safety and Health at Work and the National Institute for Occupational Safety and Health in the United States (Cox *et al.*, 2000).

1.2 Stress - a historical perspective

Some of the earliest references to stress have been attributed to Bernard (1961), Osler (1910) and Cannon (1935). However, Selye (1936) provided the first clear definition of stress as "a non-specific outcome (either physical or psychological) of any demand made upon an organism". He went on to delineate the response to a demand in three stages (described in more detail in section 1.3.1) and termed this response the General Adaptation Syndrome (GAS). Further work by Lazarus *et al.* (1952) became influential in the development of more comprehensive models taken further by McGrath (1976), Cox (1978) and French *et al.* (1982). The latter groups established the concept of demands exceeding the individual's capacity to cope which has become an accepted element to this day. Other groups have integrated, formalised and extended concepts from previous models into cybernetic or control theories of stress (Cummings & Cooper, 1979; Edwards, 1992) which incorporate feedback loops from

the perception of excessive demand, to the stimulation of coping responses, to an impact on the original source of stress.

Despite the above body of research there is still some confusion as to the exact meaning of the term 'stress'. According to Kasl & Amick (1995) the term has been used to denote an environmental condition, a subjective perception, a particular response, a relational term linking environment and person, and a process.

1.3 The theories of stress

The literature on stress would appear to consist of three main approaches to definition and theory, i.e. the stimulus approach, the response approach and the psychological approach.

1.3.1 Stimulus and response theories

The first of these, the so-called 'engineering or stimulus model' (Symonds, 1947; Spielberger, 1976; Cox & Mackay, 1981), postulates that stress is a characteristic of the environment and thereby a causative or independent variable. As such, it is deemed to be objectively measurable. Individuals are said to have a tolerance level and once this is exceeded impairment occurs. However, this model does not take account of individual differences but assumes that two individuals exposed to the same stressor will respond in the same fashion.

The second approach, i.e. the 'physiological or response model' (Selye, 1950, 1956), holds that stress is the response or dependent variable. The stress response is seen in three stages namely the initial alarm stage, followed by resistance and finally

resulting in exhaustion. The first stage entails an increase in sympathetic activity allowing for a 'fight or flight' response. During resistance, the second stage, there would be adaptation and/or a return to equilibrium. However, if the initial alarm stage is too severe or too chronic then adaptation is ineffective and the final stage of exhaustion occurs. This physiological response was at first seen as non-specific but later research discovered that responses to stimuli do not necessarily follow the same pattern but are instead stimulus-specific. As outlined by Kasl & Amick (1995) "there are no unique stress reactions or stress diseases that would automatically denote the presence of a stressor". A further criticism of the GAS is that it focuses only on the physiological response and takes no account of any psychological responses. Response theories are still seen as appropriate for some simplistic stressors, such as extremes of temperature (Christian & Lolas, 1985), but they are not considered sufficient for more complex psychosocial stressors. Adoption of this model also infers that stress is a problem inherent in the individual and absolves organisations of the responsibility to intervene.

Neither the engineering nor the physiological approaches to stress account for individual or situational differences in the tolerance for aversive events and in the non-specific response patterns to those events. Also, they take no account of the individual's perceptual and cognitive processes, rather treating the individual as a "passive vehicle" (Cox, 1993). Cox (1993) has argued that these models also ignore the psychosocial and organisational contexts to work stress.

1.3.2 Psychological theories

The third and more recent approach to models of stress, termed the 'psychological' models, view stress in terms of the interaction between a person and their environment. They incorporate both the stimulus and the response based approaches. Psychological models have five themes in common (Sutherland & Cooper, 1990a). Firstly, that stress is a subjective experience and secondly, that the way an individual perceives a situation depends, in part, on their previous experiences. The third common theme is that the demand placed upon an individual is a product of both actual and perceived demand, and actual and perceived ability. The fourth and fifth themes in psychological models are the proposals that there are interpersonal influences involved and that stress is a process with feedback at all levels. Psychological models have come to dominate the stress literature and, in particular, the occupational stress literature.

There are two distinct types of psychological theories and these are the 'interactional' which focuses on the structural aspects of the individual's interaction with their environment, and the 'transactional' which addresses the psychological mechanisms involved in this interaction. Interactional approaches attempt to assess stressors as objectively as possible whereas transactional models, such as that of Lazarus and Folkman (1984), propose that stressors cannot be assessed independently of an individual's reaction to them. Transactional approaches will be discussed in section 1.3.2.2.

Le Blanc *et al.* (2000) described the four leading interactional models of job stress and health as (i) the Michigan and Person x Environment Fit model, (ii) the Vitamin

model, (iii) the Demand-Control-Support model, and (iv) the Effort-reward imbalance model. The following section discusses these models in detail.

1.3.2.1. Interactional models

The Michigan model (Winnubst, 1980) is an early example of an interactional model which proposes that organisational characteristics, such as size or hierarchy, can generate psychological stressors, such as role ambiguity or role conflict. These stressors can lead to affective, physiological and/or behavioural reactions in the individual which can ultimately result in physical or mental ill health. The relationships between the organisational characteristics and the psychological stressors, and the psychological stressors and the stress reactions, are moderated by interpersonal relationships, i.e. social support, and/or “enduring properties of the worker”, e.g. personality. The Michigan model has specifically been criticised for not being based on a theoretical perspective and thereby lacking the ability to generate specific hypotheses which can be empirically tested (Le Blanc *et al.*, 2000).

A second example of an interactional model, the Person x Environment Fit (PxE) theory of French, Caplan and van Harrison (1982), is based on a refinement of the Michigan model in that it proposes that job -related strain is determined by the interaction between environmental variables and properties of the individual. Job stress is therefore the misfit between environmental supplies or demands and individual opportunities or abilities. This allows for the premise that, not only can excessive demands exceed the individuals abilities, but that insufficient demands can not adequately challenge individuals. In theory, misfit can be both objectively and subjectively assessed, although usually the emphasis is on the latter (Le Blanc *et al.*,

2000). The empirical evidence that does exist for the PxE fit model is mixed and it has been criticised for treating both symptoms and longer-term illnesses as strains, and for allowing a very wide range of factors to be considered stressors.

Warr's interactional 'Vitamin Model' (VM) (1987) postulates that there are nine psychological features of the environment which are important for psychological well-being and which are thought to affect mental health in the same way as vitamins affect physical health. Three of these features, pay, physical safety and holding a valued position, are said to have a constant, linear effect on mental health. The remaining six; control, skill utilisation, externally generated goals, variety, clarity, and interpersonal contact, are said to have curvilinear relationships with mental health whereby both a lack or an excess can affect mental health negatively. Warr (1987) also proposed that individuals and situations interact so that certain characteristics, i.e. values, abilities, and dispositions, moderate the relationship between job characteristics and mental health. The results from VM studies are mixed and inconclusive. Although some relationships predicted by the model have been shown to hold true others have not, even in relation to the three so-called constant features which do not always appear to have a purely linear relationship with mental health (Le Blanc *et al.*, 2000).

The interactional model termed the Job Demands-Job Decision Latitude or Job Demands-Control theory of Karasek (1979), which was further developed by Karasek & Theorell (1999), places the primary source of stress in job demands and job decision latitude. These constructs are thought to affect the individuals health, their work motivation and their learning behaviour. The most extreme stress reactions are

said to occur under conditions of high demands and low decision latitude, i.e. high strain. Low strain, i.e. low job demands and high decision latitude, result in lower than average stress. This model was expanded in 1988 by Johnson & Hall to include a third dimension, social support, and has come to be known as the Demand-Control-Support (DCS) model. High demands, low control and low social support in combination are said to result in the greatest stress and this is termed 'iso-strain'. Social support is seen as a moderator in the relationship between the two job characteristics, demands and control, and strains. The D-C-S model has received some support, particularly from larger scale studies (Le Blanc *et al.*, 2000). It has however been criticised for a lack of elaboration of the key constructs and the absence of a consideration of individual differences in the process (Le Blanc *et al.*, 2000). The model also is problematic in that it infers that the stress process is a fairly static one rather than being dynamic (Sutherland & Cooper, 1990a).

Siegrist (1996) developed the Effort-Reward Imbalance (E-R) interactional model which is based upon the principle of reciprocity. High effort at work combined with low reward (money, esteem, security/career prospects) is said to eventually result in stress symptoms and possible ill health. Effort is divided into extrinsic and intrinsic with the former consisting of job demands such as time pressure, whilst the latter is said to be related to over-commitment. Over-commitment is considered a latent variable formed by a combination of need for approval, competitiveness and latent hostility, impatience and irritability, and inability to withdraw from work obligations. The E-R imbalance model has been criticised for not making a distinction between extrinsic and intrinsic rewards in the same fashion as the distinction between extrinsic and intrinsic effort, and for a possible overlap between elements of the over-

commitment factor, particularly need for approval, and intrinsic rewards (Le Blanc *et al.*, 2000). In addition, aspects of intrinsic effort, such as over-commitment, could be said to be part of a personality trait rather than brought about by the work environment.

General criticism's of all of the above models have been that they predetermine the independent and dependent variables to be examined whereas other, non-examined, factors may influence health and well-being to a similar, or greater, extent (Sparks & Cooper, 1999). Furthermore, there is an assumption on the part of each of the above interactional models that they are applicable to all occupations. Global models of the work-strain relationship which do not take into account the differing experiences of job stressors in different working environments have been criticised (Bacharach & Bamberger, 1992; Sparks & Cooper, 1999). Sparks & Cooper (1999) illustrated that the correlations between a range of job characteristics and mental and physical health differed between occupations highlighting further the need to examine factors of relevance to each occupation. It has been further argued (e.g. Fletcher & Jones, 1993) that, in general, models of occupational stress should include a larger range of variables and they would thereby provide clearer guidance on effective intervention strategies.

1.3.2.2. Transactional models

Examples of the focus on cognitive processes inherent in transactional theories are the models of Lazarus and Folkman (1984) and Cox and Mackay (1981). Here stress is said to arise when an individual perceives that they cannot adequately cope with the demands being made upon them and, additionally, experiences concern about that

failure to cope (Cox *et al.*, 2000). Cox (1978) described the process of stress in five stages. Stage one is the existence of demands in the environment and stage two is the perception of these demands by the individual, i.e. primary appraisal. There then follows a determination of their ability to cope, i.e. secondary appraisal. Perceptions of control and available social support are additional factors included in the secondary appraisal process (Cox *et al.*, 2000). Psychological and physiological changes associated with the perception of an inability to cope comprise the third stage of the model. Stage four is concerned with the consequences of attempting to cope and stage five is the feedback mechanisms involved at all stages. These psychological models therefore place the person very much in the centre of the process as it is they who will determine whether an event or situation is a stressor for them. In the words of Payne (1999) “one person’s threat is another’s opportunity”.

1.3.2.3 The distinction between interactional and transactional approaches

Transactional models have been said to be a development of interactional models with a focus on cognitive appraisal and coping (Cox *et al.*, 2000). There is some disagreement in the literature on the inclusion of certain models under the interactional/transactional classification but all are agreed to be examples of psychological approaches.

1.4 Terminology

There appears to be agreement in the literature that an environmental stimulus or event is referred to as a ‘stressor’, although Fingret (2000) prefers the term ‘psychosocial hazard’. Le Blanc *et al.* (2000) propose a further distinction between ‘event stressors’, which are circumscribed and have an identifiable time-frame, and

'chronic stressors', which tend to begin insidiously and are long-lasting. Some authors feel that the word 'stressor' implies that excess is associated with poor outcome (Payne, 1999) but a lack, for example insufficient demand, can also lead to strain. In this study, the term 'stressor' is used to denote potential external psychosocial hazards.

The individual's response to the environmental stimulus or event is often termed the 'strain' (Beehr & Franz, 1987; Payne, 1999). Again, some authors use differing terminology such as Warr's (1987) 'well-being' at work. In this study, physical, psychological and behavioural symptoms/signs are termed 'strains'.

There are a wide range of additional variables which may influence the effect of stressors on strain outcome and these are widely referred to as 'mediators/moderators'(see section 1.8.2 for further detail). This is the terminology used in this study.

It has been suggested (Beehr, 1987) that the term 'stress' should be used to indicate the area of investigation focusing on stressors, strains and coping rather than on any specific element of the process. Many authors are in agreement with this (e.g. O'Driscoll & Cooper, 1996a). Stress has been defined as "a psychological state which is both part of and reflects a wider process of interaction between the person and their (work) environment" (Cox *et al.*, 2000).

1.5 Measuring stress

The psychological models allow for the measurement of the sequence of the stress experience and are amenable to longitudinal study. However, as Cox (1993) stated, this sequence cannot, nor should it, be combined into a single measure. Cox *et al.* (2000) went on further to recommend that measurement should focus on self-report of the appraisal process and the emotional experience of the individual. Although emphasis should be placed on self-report, Cox (1993) recommended that efforts should be made to obtain data from other sources. Such a process, termed triangulation, requires the examination of a position from at least three different points of view (Cox, 1990; Cox *et al.*, 2000) and could be achieved by obtaining evidence relating to (1) the objective and subjective antecedents of the experience of stress, (2) the self-report of stress and (3) changes in behaviour, physiology or health. Others, e.g. Bailey & Bhagat (1987), recommended a multi-method approach to stress measurement including self-report, physiological and unobtrusive objective measures.

Early measures of the impact of life stressors on individuals include the Holmes & Rahe (1967) Social Readjustment Rating Scale, the Daily Hassles scale (Kanner *et al.*, 1981) and the Psychiatric Epidemiology Research Interview (PERI) Life Events scale (Dohrenwend *et al.*, 1988). These measures are based on the premise that too many changes or a large number of minor irritants experienced in a relatively short period of time may exceed the individual's ability to cope leading to strain and possibly illness. However, the theory that each specific event or hassle creates the same degree of strain in every individual is not generally accepted.

1.6 Occupational stress

The first interest in the psychological effects of work has been noted by Fingret (2000) to have been in 1915 in relation to the health of munitions workers. Beehr & Newman (1978) defined job stress as “a situation wherein job-related factors interact with a worker to change (i.e. disrupt or enhance) his or her psychological and or physiological condition such that the person (i.e. mind or body) is forced to deviate from normal functioning. This definition also serves to define what we mean by ‘employee health’; namely a person’s mental and physical condition. We are referring to health in its broadest sense - the complete continuum from superb mental and physical health all the way to death. Note that we are not excluding the possibility of beneficial effects of stress on health” (p. 670).

The costs to organisations of the effects of occupational stress have been variously estimated. In the 1980’s, stress in the workplace was more costly to UK companies than industrial relations disputes (Berridge *et al.*, 1997). Cox *et al.* (2002) estimated that 20% of existing reported cases of occupational ill health could be accounted for by stress-related illness with an annual incidence of about 92,000 new cases. In terms of working days lost due to all forms of absenteeism, the US estimate has been of the order of 550 million (O’Driscoll & Cooper, 1996a) while the UK estimate stands at 187-360 million (Sigman, 1992; Stansfield *et al.*, 2000). Kearns in 1986 stated that 40 million days were lost each year due to stress-related disorders and that up to 60% of all work absence was caused by them. Cox *et al.* (2002) placed the figure at about 6.5 million working days lost each year. Others have said that approximately 30%-50% of working days lost are thought to be in some way stress-related (Elkin & Rosch, 1990; HSE, 1990; Berridge *et al.*, 1997). The UK health service has been said to lose the

equivalent of 10,000 whole time equivalent staff through medically certified sickness each year with 4,000 of these being the result of stress (Rees, 1995). The associated costs of stress-related sickness absence are in the region of £3.7 to £12 billion (Berridge *et al.*, 1997; Confederation of British industry, 1997; Le Blanc *et al.*, 2000; Cox *et al.*, 2002). The Bristol Stress and Health at Work study (Smith *et al.*, 2000) found that 40-45% of respondents described themselves as 'moderately' stressed while 15-20% felt they were 'very' or 'extremely' stressed as a result of work. Jones *et al.* (1998) found that 26.6% of respondents to a population questionnaire survey reported suffering from work-related stress, depression or anxiety, or a physical condition which they ascribed to work. It would appear then, although the figures quoted vary depending upon the source, that levels of work-related stress and the associated costs are not insubstantial and therefore the issue merits closer examination.

Occupational stress has been an area of substantial research, organisational and individual interest since the mid-1950's (O'Driscoll & Cooper, 1996a) but the past thirty years have seen an explosion in the research on occupational stress (Briner, 2000). There are many reasons why there has been such a growth in interest in occupational stress and Sethi & Schuler (1984) have outlined four of the major motivational factors. These are (i) concern for individual employee health and well-being, (ii) the significant financial impact of stress on organisations, (iii) the negative effects of stress on organisational effectiveness, and (iv) the legal obligation on employers in terms of duty of care. In addition, the workplace is one area of life that can be associated with stress of both an acute and chronic nature providing wider scope for research interest. According to Briner (2000) the work environment

potentially includes a range of factors of interest including the physical setting, the job characteristics, organisational features and societal influences. Approximately 60% of the working lives of those in employment is spent in the workplace (Williams & Cooper, 1999) thereby creating the potential for significant individual impact in relation to addressing the causes and effects of stress.

The research literature on occupational stress takes a number of forms, some of which have been outlined by Kasl and Amick (1995). These include the examination of occupational differences in mortality and morbidity, the search for sources of stress among a single or a few occupations, cross-sectional surveys and, to a much lesser extent, longitudinal designs. Each approach has its strengths and weaknesses, for example including a wide range of occupations in one study minimises any control over confounding factors whereas examining only one occupation leads to the development of unique measures with little generalisability. There follows a brief description of the general occupational stress literature illustrating the nature and extent of recent research into this area. Thereafter section 1.8 will provide a more focussed review of the literature that is particularly relevant to the variables under investigation in the present thesis. A brief description of the occupational stress literature in relation to health service personnel, the participant population, is provided in Chapter 3 as well as a more focussed review of the literature in relation to the topics covered in the results chapters 5 to 8.

1.7 Occupational stress literature

A literature search using the terms 'occupational stress and 'work stress' was conducted using the databases Psych Info, Psychology and Behavioural Sciences

Collection and Nursing and Allied Health Collection. The number of identified articles published between 1980 and May 2003 using these terms was 8734 including book chapters. Large-scale (i.e. greater than 1,000 participants) surveys from 2000 to May 2003 alone using the above search terms totalled 115. It was clearly beyond the scope of this study to review all of the identified literature and it was decided to focus on topic specific reviews as outlined later in this Chapter and in Chapter 3.

Two of the more recent and commonly cited larger scale surveys are described in detail in Table 1.1. In a longitudinal study of 7,372 civil servants Stansfield *et al.* (1999), using a range of measures, found that the risk of psychiatric disorder was increased by high efforts and low rewards, by high demands, by low decision authority, and by a lack of social support. Smith *et al.* (2000), again in a mixed occupation sample of 7,069, found that high levels of reported stress were associated with age 25-54, being in full-time work, doing shiftwork and long hours, exposure to noise, having to work fast, lack of support, less job satisfaction, anxiety, depression and general distress.

Within the field of research on occupational/work stress it would appear that researchers have used a variety of standardised and purpose-designed tools to measure aspects of work-related stress. According to Cox *et al.* (2000), when considering the areas to assess in any study of occupational stress, consideration should be given to the employee's perceptions of the demands upon them, their ability to cope with those demands, their needs and the extent to which they are fulfilled by work, their control over work and the support they receive in relation to work.

Date/Authors/Country	Sample/Response rate	Methodology	Measures	Findings
1999 Stansfield <i>et al.</i> England	Civil servants N = 7,372 in 3 phases RR = 83% [Phase 1, RR = 73%; Phase 2, RR = 79%; Phase 3, RR = 83%]	Longitudinal Postal questionnaire & screening examination	1. Karasek & Theorell job content instrument <ul style="list-style-type: none"> • Decision latitude • Job demands • Social support 2. GHQ-30 3. Negative affect scale 4. Cook-Medley hostility scale 5. Effort-reward imbalance 6. Objective assessment <ul style="list-style-type: none"> • Control • Work demands 	21-28% men & 25-34% women were 'cases'. Risk of psychiatric disorder increased by: <ul style="list-style-type: none"> • High efforts and low rewards • High demands • Low decision authority • Lack social support Association not markedly reduced by adjustment for negative affectivity and hostility.
2000 Smith <i>et al.</i> England	Mixed occupations N = 7,069 RR = 49%	Cross-sectional Postal survey Names from electoral register	1. Purpose-designed: <ul style="list-style-type: none"> • Job & personal demographics • Work characteristics • Work stress • Health 2. GHQ 3. HAD	17% 'very' or 'extremely' stressed. High stress associated with: <ul style="list-style-type: none"> • Age 25-54 • Full-time work • Shiftwork & long hours • Exposure to noise • Having to work fast • Lack of support • Less job satisfaction • Anxiety, depression & general distress

Table 1.1: Large scale studies of occupational stress

1.8 Variables in occupational stress models

There have been many models of occupational stress developed over the years ranging from the very simplistic to the hugely complex. The type which has been chosen for this study and which appears to have the greatest utility is the interactional approach comprising the three broad areas of ‘stressors’, ‘mediators/moderators’ and ‘strains’. Interactional models are based in the psychological theories which are increasingly recognised as the most appropriate for the complex psychosocial environment that is today’s workplace. Such models provide a structure within which the process of stress can be assessed.

1.8.1 Stressors

There are a large number of potential workplace stressors. They can generally be divided into the physical such as noise, temperature, etc., and the psychosocial such as role in the organisation, involvement in decision-making, etc. Psychosocial stressors or hazards, i.e. “those aspects of work design and the organisation and management of work and their social and environmental contexts, which have the potential for causing psychological, social or physical harm” (Cox *et al.*, 2000), are many and varied. Levi (1984) identified four main headings for psychosocial stressors or hazards in the workplace. These are quantitative overload, qualitative underload, lack of control and lack of social support. Cox *et al.* (2000) listed ten key areas namely organisational culture and function, role in the organisation, career development, decision latitude/control, interpersonal relationships at work, home-work interface, work environment and equipment, task design, workload/workpace, and work schedule.

There are certain potential stressors which are common to all occupations, such as lack of control, and there are stressors which are particular to specific occupations, such as dealing with death and dying for many of the healthcare professions.

Therefore, in developing a model of occupational stress in healthcare personnel, one would have to take account of both profession-specific and generic stressors.

1.8.1.1 Profession-specific stressors

The health service in the UK is made up of key professional/occupational groups which are commonly listed as Administrative and Clerical (A&C), Support/Ancillary, Management, Doctors/Medics, Nurses, Professions Allied to Medicine

(P.A.M.'s)/Technical. This is a common classification system used by many (e.g.

Borrill *et al.*, 1998). Clearly it would be cumbersome to address the specific stressors of each group separately but they do seem to fall into three broad categories, i.e.

(i) Nurses, (ii) Medics & P.A.M.'s, and (iii) Management & Support (which includes A&C). The following sections will discuss the range of stressors relevant to each of these three groupings.

1.8.1.1.1 Nurses

Nurses are the largest single professional group in the UK health service (Sutherland & Cooper, 1990b). They have a higher mortality ratio than other professional women and are more likely to commit suicide. They are also over-represented in the professionals attending psychiatric outpatient referrals (Gillespie & Gillespie, 1986).

Marshall (1980) listed common stressors identified for nurses as nursing tasks, workload, death and dying, uncertainty, responsibility, role conflicts, relationships with the public and colleagues, work/home conflict and fulfilling others expectations

of the role of the nurse. Although nurses are not a homogeneous group in that they differ in terms of qualifications, experience, grading, type of ward/hospital they work in, etc., a common set of stressors do seem relevant (Weeks, 1978; Dawkins *et al.*, 1985; Hingley & Cooper, 1986; Dewe, 1987). In terms of the most appropriate tool to assess these stressors, Duquette *et al.* (1994) recommended that research in the area of nursing stress should include the use of the Nursing Stress Scale (Gray-Toft & Anderson, 1981) as the stressor measure.

1.8.1.1.2 Medics & professions allied to medicine (P.A.M.'s)

Mortality figures indicate that medical practitioners have a high risk of dying from suicide, cirrhosis, accidental poisoning, and accidents (Registrar General, 1978).

Common reported stressors include high workload, need to work long hours, time pressures and not having enough free time (Sutherland & Cooper, 1990b). Professions Allied to Medicine (P.A.M.'s), it could be argued, share many of the same work features as medics in that they have substantial patient contact, are more often than not responsible for their own caseload, and carry administrative, research and academic responsibilities as well (Sweeney & Nichols 1996).

There have been numerous measuring tools used to assess job-related stressors in medics and P.A.M.'s including the Health Professions Stress Inventory (Revicki & May, 1985; Wolfgang, 1988), the Occupational Stress Indicator (Rees & Cooper, 1990; Sutherland & Cooper, 1993; Swanson *et al.*, 1996), the Specialist Doctors Stress Inventory (SDSI) (Agius *et al.*, 1996; Deary *et al.*, 1996b) and the Sources of Stress Questionnaire (Firth-Cozens, 1998). There does not appear to be any consensus

on the most appropriate tool for assessing stressors in Medics/P.A.M.'s but one of the most recent and promising appears to be the SDSI.

1.8.1.1.3 Management & support staff

Management and support staff (which includes administrative/clerical and ancillary/trade staff) are often the 'forgotten' of health service personnel. They clearly do not carry the same clinical responsibilities as the nurses, medics or P.A.M.'s but they are crucial to the functioning of the health service and endure their own range of stressors. Borrill *et al.* (1998) listed the main work-related factors associated with stress for health service managers as work demand, influence (or lack thereof), role conflict, poor feedback, limited autonomy and control, and poor social support.

The 'Sources of Pressure in Your Job scale' from the OSI (Cooper *et al.*, 1988) was originally developed on managers and has been widely applied since. It appears to tap most of the stressor areas relevant to management and support staff in the NHS.

1.8.1.2 Generic stressors

As indicated previously, there appear to be a range of stressors which are potentially relevant regardless of the occupation under investigation. The areas chosen for coverage in this study are now described in detail in the following sections.

1.8.1.2.1 Understanding, predictability and control

Having an understanding of job-related events, perhaps through participation and involvement, has been shown to be positively associated with satisfaction and self-esteem (Spector, 1986). The classic experiments of Weiss (1980), who manipulated

predictability of electric shocks in rats, demonstrated the stressful effects of unpredictability in relation to the development of ulcers, increased body temperature, lost weight and increased stress hormone secretion. Little or no control at work has repeatedly been shown to be associated with the experience of stress (Wall & Clegg, 1981; Jackson, 1983; Murphy, 1988; Jones & Fletcher, 1996; Jones *et al.*, 1998). Wall *et al.* (1996) distinguished between three different types of control, i.e. control over the timing of events, control over the work method and control over the boundary or extent of work-related tasks. Work control, as measured by the OSI, was positively associated with mental and physical health across 7,099 employees from 13 different occupations including pharmacists, anaesthetists, physicians, administrative health-care workers, paramedics and nursing staff (Sparks & Cooper, 1999).

1.8.1.2.2 Role conflict

Role conflict occurs when aspects of the tasks inherent in a job are in conflict with one another in terms of time, resources or outcome, or the role conflicts with an individual's values (Cox *et al.*, 2000). It has been shown to be associated with job-related strain and ill health (Kahn & Byosiére, 1992; O'Driscoll & Beehr, 1994). Following a meta-analytic study conducted on the literature from 1970 to mid-1981, Fisher & Gitelson (1983) reported that role conflict was negatively associated with satisfaction with pay, co-workers and supervision, and participation in decision-making. Jackson & Schuler (1985) conducted a further meta-analytic study of 29 correlates of role conflict and found a number of relationships including a negative association with job satisfaction. It would appear then that role conflict can be a generic stressor.

1.8.1.2.3 Role ambiguity

Role ambiguity has been extensively researched as a predictor of psychological health in the workplace (Kahn *et al.*, 1964; Schaubroeck *et al.*, 1989; Bhalla *et al.*, 1991; O’Driscoll & Beehr, 1994). It is a term used to describe a range of uncertainties about one’s role in an organisation and can include lack of clarity in relation to job objectives, expectations, scope and responsibility. Results of a meta-analytic study (Fisher & Gitelson, 1983) found role ambiguity to be positively associated with educational level and negatively associated with satisfaction with co-workers and promotion, tenure and age. A further meta-analytic study (Jackson & Schuler, 1985) found a substantial number of associations with role ambiguity including education and absence (positive) and participation, age and satisfaction (negative). The associations between role ambiguity and strain, although not particularly strong, are typically found to be greater than those between role conflict and strain (Jackson & Schuler, 1985). It would therefore seem that role ambiguity should be an area of investigation in any comprehensive study of occupational stress.

1.8.1.2.4 Job future ambiguity

The 1990’s saw a growth in ‘downsizing’ across industries, particularly in relation to the levels of management within organisations (Kozlowski *et al.*, 1993; Jones & Fletcher, 1996; Jones *et al.*, 1998). This has led to feelings of job insecurity or job future ambiguity which has been shown to be a significant stressor in a range of occupations (Cox *et al.*, 2000). Indeed, O’Driscoll & Cooper (1996b) proposed that job insecurity “may be one of the single most salient sources of stress for employees today”. The UK health service was once considered a very stable employment environment but it too has felt the effects of the global re-structuring. A measure of

job future ambiguity would therefore seem to form an essential part of a study of occupational stress.

1.8.1.2.5 Non-occupational stressors

Despite the emphasis in the occupational stress literature on the workplace as the source of stressors, consideration should be given to potential stressors outwith the workplace. Smith (2000) stated that it would be an error to believe that working life and life outside work are unrelated but that instead they have links in terms of their psychological and physiological effects. As examples, Smith (2000) outlines potential situations where the primary source of stress is work-related but is impacting on home life or conversely the primary source is non-work related but is exacerbated by work. There is evidence that the boundary between work stress and non-work or home life stress is permeable (Cooper & Cartwright, 1994; Kinman & Jones, 2001) for example, Smith (2000) found that those with high levels of occupational stress felt unable to stop thinking about work when they were at home and this often led to a 'wasted leisure time syndrome' (Gardell, 1973). Likewise, Briner (2000) maintained that what is happening to an individual outside work can have a significant impact on their well-being and therefore their work performance. So there can be conflict between work and non-work roles. Such conflict can lead to increased strain (Frone *et al.*, 1992; O'Driscoll *et al.*, 1992). The topic of the home-work interface is a research area in its own right (Kinman & Jones, 2001) and it is not the intention of this study to investigate it in depth. However, it has been recommended that stress research should take account of non-work stressors (Cox, 1993).

Such non-work stressors could take many forms. It is the contention of Williams & Cooper (1999) that individuals have increasingly complex lives as a result of the changes in family life over the decades. These changes include growths in single parent families, the divorce rate, the presence of women in the workplace, dual career couples, ageing population, moving house and the decrease in social support networks. All these could conceivably be relevant to a study on occupational stress.

1.8.2 Mediators/moderators

There are a wide range of variables which are thought to either moderate (i.e. buffer) or mediate (i.e. facilitate) the relationship between stressors and strains. Some of the most widely researched include a range of job and personal demographics, coping, social support and aspects of personality.

1.8.2.1 Demographics

There are many potential job and personal demographics which have been shown to be important in the stress process. Fletcher (1988) reported that those individuals in the lower social classes, and therefore often in the lower level of an organisation, tend to have poorer physical and mental health. It is often cited that younger workers have higher levels of stress than older workers (Payne, 1999) and females are generally thought to present more often with psychological health problems than males. It is therefore crucial to the understanding of the occupational stress process that job and personal demographics are included in any investigation.

1.8.2.2 Coping

Coping, i.e. “cognitions and behaviours adopted by the individual following the recognition of a stressful encounter, that are in some way designed to deal with that encounter or its consequences”, is an important part of the stress process but remains poorly understood (Dewe *et al.*, 1993). It has been suggested by Lazarus (1966) to have three main features, i.e. (1) it is a process, (2) it is context dependent, and (3) it is independent of outcome. Cox & Griffiths (1995) summarised individuals coping resources under four headings of energy, knowledge, personality and skills.

O’Driscoll & Cooper (1996b) suggest that coping has three main foci - (1) to remove or reduce stressors, (2) to alter the perception of the stressor, and (3) to minimise the resultant strain. The study of coping has been divided into two main approaches which either attempt to classify the different types of coping or which looks at coping as a problem solving process. The former usually breaks down into emotion-focused or task-focused strategies (Lazarus & Folkman, 1984). Task focused strategies address the problem itself while emotion focused strategies act to reduce the level of threat posed by the problem. Dewe *et al.* (1996) reviewed the literature on individual strategies used to cope with work stress and identified seventeen studies as representative of the literature. They concluded that the question of how coping is classified and modelled remained open.

Stress researchers view coping as a major component of the overall stress process (O’Driscoll & Cooper, 1996b). It has been seen as both a mediator, linking stressors and strains, and a moderator of the stressor-strain relationship. There is some evidence that emotion-focused coping is less effective than task-focused coping in

dealing with work-related problems providing that the situation is amenable to active intervention (Le Blanc *et al.*, 2000).

The measurement of coping remains a problem with many tools being utilised.

O'Driscoll & Cooper (1996b) have outlined five major issues around the development of coping measures as follows:

1. The confusion between coping styles and coping behaviours. Coping styles are thought to be consistent and stable whilst coping behaviours consist of the responses actually made in a situation. Many coping measures include both styles and behaviours.
2. The specificity of coping responses assessed. It is often the case that individuals adopt different strategies in different situations and asking about general coping responses may not be meaningful.
3. The deductive versus the inductive approach to assessing coping. A deductive approach would utilise information existent in the literature to develop a tool to assess coping. An inductive approach, on the other hand, would elicit responses from individuals and then combine them into meaningful categories with which to produce an assessment tool. The inductive approach makes no prior assumptions and therefore may be considered more valid.
4. General versus specific stressors. The focus of coping measurement tends to be general rather than being based on coping in relation to specific stressors.
5. Predetermined versus elicited stressors. Rather than asking for coping responses under a set of predetermined situations respondents are asked to identify stressful experiences and then to describe how they coped with them. Although ecologically valid this approach makes it difficult to draw generalisable conclusions.

Despite this, there are many available instruments for studying coping such as the Ways of Coping Questionnaire (Lazarus & Folkman, 1984), Health and Daily Living Form (Billings & Moos, 1981), Occupational Stress Indicator (OSI - Cooper *et al.*, 1988), etc.

There have been a number of criticisms levelled at existing tools for the measurement of coping. These include the variation in internal reliability between studies using the same tool thereby raising questions about the validity of the measure. Varying factor structures have been found for the same instruments; there have been considerable overlaps between modes of coping which should be distinct; and/or a lack of relationship between coping dimensions which should be similar. Many studies have shown weak if any predictive power of coping measures in relation to outcome. These problems may be at least partly accounted for by the fact that the tools provide a predetermined list of coping responses where the relevance to the respondent may vary (Dewe *et al.*, 1993; O'Driscoll & Cooper, 1994). In addition, there is a debate regarding the consistency of coping responses over time and across situations (Edwards, 1988; Terry, 1994) and so existing tools may not be test-retest reliable.

Critical incident analysis has been used as an alternative approach to identifying coping strategies used in particular situations (Flanagan, 1954; Wiersma, 1994). This consists of asking individuals to describe recent stressful situations in terms of the precursors or antecedents, their and others responses, and the consequences of their and others behaviours. Independent coders then derive category labels from these and assign individuals responses to these categories under each of the three components. The advantages of critical incident analysis are that it is ecologically valid, it provides

an accurate picture of specific behaviours and it allows a closer examination of outcomes. However, individual's recall for detail may become increasingly inaccurate over time, or as a result of any emotional upset associated with the event or cognitive re-framing. When it comes to the stage of imposing categories there are difficulties in relation to the breadth allowed. If too broad, information may be lost and if too narrow, then results may not be generalisable. There are also time costs not just in undertaking the interviews but in training both the interviewers and the coders. It is, therefore, not always appropriate depending upon the study design and resources.

It would appear therefore that there is no consistently recognised tool of choice for assessing coping in relation to the occupational stress process.

1.8.2.3 Social support

Another important construct in the stress process is that of social support. Gore (1978) was among the first to examine the concept of social support in relation to stress and unemployment. Social support was further incorporated into the job stress models by Payne (1979). Le Blanc *et al.* (2000) outlined four conceptualisations of workplace social support namely social integration (number and strength of connections), satisfying relationships, perceived available support and actually received support. The four main types of support are commonly seen as emotional, instrumental, informational and appraisal. Poor quality and low levels of interpersonal support at work have been found to be associated with increased job strain and ill health (Motowidlo *et al.*, 1986; Beehr & McGrath, 1992). There is considerable debate over whether social support acts as a moderator of the impact of stressors on strains, or whether it has a direct effect (Cohen & Willis, 1985; Beehr *et al.*, 1990; Kahn &

Byosiere, 1992; Jones & Fletcher, 1996). More recent studies have examined the conditions under which the influence of social support is exerted (Fenlason & Beehr, 1994). A lack of social support has been seen by some (Payne, 1999) as a growing feature associated with the experience of change in the health service.

Again, the issue of measurement in relation to social support is not clear. There exist a range of standardised measures including the Social Support Questionnaire (Sarason *et al.*, 1983), the MOS Social Support Survey (Sherbourne & Stewart, 1991) and the House and Wells measure (House & Wells, 1978). It would appear however, that the House and Wells measure is one of the most widely used and validated.

1.8.2.4 Personality

Aspects of individual differences have been given increasing recognition in the stress process. Le Blanc *et al.* (2000) described three of the more obvious categories of individual difference variables as genetic characteristics, e.g. gender, acquired characteristics, e.g. education, and dispositional, e.g. personality. It is the latter, i.e. dispositional, that these authors declared to be the most relevant to the job stress process in that job stressors can have negative effects on all workers but more severe effects on those with certain dispositional characteristics. For example, aspects of personality may influence the experience, perception and/or reaction to job stressors (Spector, 1999). Many authors have highlighted the need for the inclusion of a measure of personality in occupational research (McKenna & Scholl, 1985; Sparks & Cooper, 1999). Variables which have been studied in this regard include Type A behaviour, which consists of ambitious and hard-driving behaviours and attitudes (Friedman & Rosenman, 1974; Ganster & Schaubroeck, 1991; Rosenman, 1996);

locus of control (Rotter, 1966; Kahn & Byosiere, 1992); trait anxiety (Spielberger, 1972) and hardiness (Kobasa *et al.*, 1983). More stress is experienced by those who are Type A personalities with an external locus of control, high trait anxiety and low levels of hardiness (Presson & Benassi, 1996; Payne, 1999).

One of the most recently studied aspects of personality is that of positive and negative affectivity (Watson & Clark, 1984; Brief *et al.*, 1988; Watson & Pennebaker, 1989; Chen & Spector, 1991; Jex & Spector, 1996). Negative affectivity results in a tendency to experience and report higher levels of stressors in addition to appraising psychological health status negatively while positive affectivity is a reflection of the extent to which a person feels enthusiastic, active and alert (Watson *et al.*, 1988; Cox *et al.*, 2000). Negative affectivity has been found to be associated with role ambiguity, role conflict, interpersonal conflict, job dissatisfaction and absenteeism (Chen & Spector, 1991; Jex & Spector, 1996; Moyle, 1995). Elliot *et al.* (1994) demonstrated that negative affectivity is predictive of low job well-being. Evidence is growing about the moderating effects of negative affectivity on the relationship between stressors and strains (Brief *et al.*, 1988) and there is a debate about the necessity or otherwise of partialling out its effects (Spector *et al.*, 2000). Despite this, affectivity is increasingly considered an essential construct for measurement in the stress process.

1.8.3 Strains

There are a wide range of negative experiences associated with stress which may or may not lead to eventual ill health. Broadly speaking, stress may affect the way a person feels, thinks or behaves (Briner, 2000).

1.8.3.1 Physical

Cannon (1929, 1931) and Selye (1936) were two of the early researchers into the physiological and physical health correlates of stress. The systems which seem to be particularly vulnerable to the effects of stress are the cardiovascular and respiratory systems, the immune system, the gastro-intestinal system and the endocrine, autonomic and muscular systems (Cox, 1993). Smith (2000) found that stress at work was associated with more frequent minor physical symptoms such as digestive problems, headache, upper respiratory tract illnesses, backache and other pains.

Attempts at measuring physiological stress indicators such as hormone levels (Payne, 1999) are becoming more common using samples of saliva, blood or urine. However, the less invasive method of self-reported associated symptoms such as headache, sweating, nausea, etc. (Payne, 1999; Smith, 2000) is still more frequently used. There remains a degree of inconsistency between self-reports of strain and physiological indices (Pennebaker & Watson, 1988). Self-reports may be biased through subjectivity and other influences on recall, and are not considered as precise and reliable as more invasive physiological assessments. However, such physiological assessments are beyond the scope of many studies and therefore physical strain indicators are being developed which correlate more strongly with stress 'hormone' levels (Burton *et al.*, 1996).

In a large scale survey such as the present study it would be impossible to undertake direct physiological measures and therefore, in order to assess the physical strains, the use of a questionnaire measure is necessary.

1.8.3.2 Psychological

There are many possible psychological strains that could be measured but some of the most common are non-psychotic psychiatric disturbance (Goldberg, 1992) and job satisfaction (Warr *et al.*, 1979). In addition, 'burnout' is of particular interest to the caring professions (Maslach & Jackson, 1993).

1.8.3.2.1 Burnout

Freudenberger (1974) has been thought to have been the first to label a phenomenon, observed particularly in the caring professions, the conceptualisation of which by Maslach and Jackson (1981a, 1982) has become adopted by the majority of researchers in the field. It was thought that high levels of contact with other people, in varying degrees of distress, resulted in feelings of emotional exhaustion (emotional resources become depleted), depersonalisation (a growing detachment from others leading to a cynical and sometimes callous approach) and reduced personal accomplishment (a tendency to evaluate one's performance negatively). Schaufeli & Enzman (1998), following a review, defined burnout as "a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterised by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviours at work. This psychological condition develops gradually but may remain unnoticed for a long time for the individual involved. It results from a misfit between intentions and reality of the job. Often burnout is self-perpetuating because of inadequate coping strategies that are associated with the syndrome".

Burnout is considered to be an 'end-stage' following chronic exposure to stressors combined with inadequate coping responses (Schaufeli, 1999). Emotional exhaustion is generally thought to precede depersonalisation and reduced personal accomplishment (Leiter & Maslach, 1988) however others have argued for alternative sequences (Golembiewski & Munzenrider, 1988; Leiter, 1993). Others have proposed that burnout is the result of a lack of reciprocity, both in relation to a lack of positive feedback on an interpersonal level from the recipients of care (Schaufeli & Janczur, 1994) and on an organisational level in relation to the balance between employee input and employer treatment (Schaufeli *et al.*, 1996).

Burnout shares many of the characteristics of other psychological syndromes particularly depression. However, although there is a degree of overlap (Schaufeli, 1999), burnout tends to be job-specific and includes feelings and behaviours that are not typical of depression (Glass & McKnight, 1996).

Much research has been undertaken on the concept of burnout (Schaufeli, 1999) a large proportion of which has looked at health care staff (Schaufeli & Enzmann, 1998). Levels of burnout in health service personnel have been variously reported. In a review of 43 USA studies published between 1979 and 1998, Schaufeli & Enzmann (1998) reported that levels of emotional exhaustion in nurses, physicians, and 'psychologists/counsellors' were relatively low in comparison to the teaching and social services professions. This was also true for depersonalisation with the exception of physicians who exhibited the highest levels. Reduced personal accomplishment was highest amongst nurses.

The antecedents of burnout include levels of patient contact (Cordes & Dougherty, 1993), workload (Lee & Ashforth, 1996), role stressors (Schaufeli & Enzmann, 1998), interpersonal relations with colleagues and supervisors (Leiter & Maslach, 1988), and poor communication (Matteson & Ivancevich, 1987). Burnout has also been associated with depression (Cordes & Dougherty, 1993), reduced organisational commitment (Leiter & Maslach, 1988;), job dissatisfaction (Schaufeli & Enzmann, 1998), increased absenteeism (Cordes & Dougherty, 1993; Schaufeli & Enzmann, 1998), etc.. The Maslach Burnout Inventory (Maslach & Jackson, 1993) is the most widely used measure of burnout (Schaufeli, 1999) with satisfactory validity and reliability (Schaufeli *et al.*, 1993).

1.8.3.2.2 Psychological distress

Non-psychotic psychiatric disturbance is a frequent occurrence in the general population (Meltzer *et al.*, 1994) as well as the working population. Firth-Cozens (1999) maintains that a greater proportion of medical professionals are psychologically distressed than in the rest of the working population while Mullarkey *et al.* (1998) found the highest rate amongst general managers.

There are many methods of measuring such psychological distress (Crown & Crisp, 1979; Warr, 1987, 1990) but the General Health Questionnaire is probably the most widely used. Goldberg (1978) developed the General Health Questionnaire to detect minor psychological disturbance in the general population. Levels of caseness, i.e. scoring above the recommended cut-off, in British doctors is of the order of 28%-30% (Wall *et al.*, 1997); in NHS managers 31%-33% (Caplan, 1994; Borrill *et al.*, 1998); and in nurses 28% (Wall *et al.*, 1997; Borrill *et al.*, 1998). Clearly then such an

assessment of psychological distress should form a part of any investigation into the stress process.

1.8.3.2.3 Job satisfaction

Locke's (1976) definition of job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences". Measures of job satisfaction therefore attempt to assess the extent to which an employee feels positively or negatively towards his or her job (Locke, 1976; Warr *et al.*, 1979). Job satisfaction has been positively associated with life satisfaction and happiness (Warr *et al.*, 1979), and general mental well-being (Sutherland & Cooper, 1990c; Clark, 1996), and negatively associated with self-rated anxiety (Warr *et al.*, 1979). Job stress (Sutherland & Cooper, 1990c), work overload (French & Caplan, 1973), role ambiguity and role conflict (French & Caplan, 1973; Jackson & Schuler, 1985) have all been associated with low job satisfaction while opportunity for participation (Coch & French, 1948; Margolis *et al.*, 1974) has been associated with high job satisfaction. Job dissatisfaction has been implicated in absenteeism from work (Porter & Steers, 1973; Clegg, 1983), intention to quit (Porter & Steers, 1973; Freeman, 1978) and labour turnover (Porter & Steers, 1973; Gruneberg & Osborne, 1982; Carsten & Spector, 1987). Job satisfaction and job performance are said to be only slightly related (Iaffaldano & Muchinsky, 1985) in a negative direction (Mangione & Quinn, 1975) however, some authors maintain that there is not necessarily a direct relationship between job satisfaction and job performance (Porteus, 1997) but that there is a mediator variable involved. Job satisfaction therefore is an essential element in the investigation of stress.

1.8.3.3 Behavioural

A variety of behaviours can be affected by the experience of stress including drinking and smoking. Other behavioural indicators of stress have been listed as poor time keeping, impaired work performance, reduced productivity, medical retirement, accidents, litigation, high turnover, industrial disputes, increasing client complaints, and employee compensation claims (Williams & Cooper, 1999; Cox *et al.*, 2000).

One of the withdrawal behaviours in the workplace which is inferred to reflect changes in stress is absenteeism (Payne, 1999; Cox *et al.*, 2000).

1.8.3.3.1 Absenteeism

Most organisations routinely collect some form of data on days lost through employee absenteeism and often this is the only measure taken of employee health (Williams & Cooper, 1999). In 1994 the UK government removed the ability of employers, except for the smallest companies, to claim back statutory sick pay. This led to improvements in the recording of sickness absence and an increase in organisational attention to the management of the issue. The UK health service does not record sickness absence in any standard way (Verow & Hargreaves, 2000) and problems abound in relation to the reliability of this data. The UK health service has had specific targets set to improve sickness absence levels by 20% in 2002 and 30% in 2003 (NHS Executive, 1998). Self-reported sickness absence has been shown to have a small self-reporting over-estimate compared with actual mean sickness absence (Rees & Cooper, 1991).

The influences on sickness absence levels are many and varied, and can include personality or individual characteristics, attitudes to work, the nature of the job and

the organisational culture in relation to absence. However sickness absence can be used to give a feel for the extent of the effects of occupational stress on this variable (Health Education Authority, 1999; Stansfield *et al.*, 2000).

The Labour Force Survey of 1995/96 reported that 25.5% of those people who reported a work-related illness ascribed it to stress or mental ill health caused by work. In a study of one health service Trust, Verow & Hargreaves (2000) found that, of the known reasons for sickness absence, mental health problems accounted for the greatest number of hours lost and associated costs for longer term sickness absence after musculo-skeletal problems. In this study the primary care directorate had the highest number of absence spells of longer than seven days duration due to mental health reasons.

Rees & Cooper (1991) found highly significant positive correlations between mental and physical ill-health, as assessed by the OSI, and self-reported sickness absence for employees of a single health authority in England. They also found a highly significant negative correlation between job satisfaction and sickness absence. In a study of nursing staff in long-stay settings, Firth & Britton (1989) found that emotional exhaustion was associated with total time off sick in the subsequent twelve months and that absence correlated with perceived impatience or defensiveness on the part of the immediate superior.

For reasons of confidentiality, it is often difficult to obtain objective data on sickness absence, if indeed such data exists within an organisation in a reliable form. Bearing

in mind that sickness absence is usually due to a number of factors, it would still seem appropriate to include it as a variable in stress research.

1.9 Summary

Given the above, it would appear that there are a number of key variables which are relevant to the stress process and in particular the occupational stress process. Over and above that, there are constructs which appear more relevant to occupational stress in healthcare personnel. To this end the interactional model adopted in this study incorporates profession-specific stressors; generic stressors of understanding, predictability, control, role conflict, role ambiguity, job future ambiguity, and non-occupational; job and personal demographics; coping; social support; personality; physical strain; burnout; psychological distress; job satisfaction; and, sickness absence.

1.10 The legislation

Although there presently exists no separate legislation covering stress at work, there are a number of pieces of legislation which can impose liability for workplace stress. The aim of the Health and Safety at Work etc. Act (HASAWA) 1974 was to 'secure the health, safety and welfare of persons at work'. This Act placed duties both on the employer and the employee and any breach of these duties would result in criminal liability. Most employers are aware of their duties under this Act as regards physical injury but it was probably case law which established the principle that mental health carries the same duty of care for employers as physical health. This message was reinforced by the Health and Safety Executive (1995) publication which stated that employers "have a legal duty to take reasonable care to ensure that health is not

placed at risk through excessive and sustained levels of stress arising from the way work is organised, the way people deal with each other at their work or from the day-to-day demands placed on their work-place". It also went on to say that "stress should be treated like any other health hazard". Part of the provisions of the HASAWA implied that employers should assess the levels and sources of stress in their workforce and then take 'reasonably practicable' steps to alleviate any stress.

It was not until the passing of the Regulations for the Control of Substances Hazardous to Health (COSHH) 1988 and the Amendment 1990, and the Management of Health and Safety at Work (MHSW) Regulations 1992 and 1999 that risk assessment became a statutory duty. Employers were then required to make themselves aware of potential hazards at work, assess the risks to the health of their workforce, adopt any necessary preventive and protective measures, and provide adequate information and training. Cox *et al.* (2002) maintain that "the emphasis in law is on risk reduction at source - primary prevention - with the focus on the organisation as the generator of risk".

Cox (1993) offered an approach to intervention in occupational stress based on the requirements outlined in the above legislation, specifically the 'control cycle' of the COSHH (1988). The first step required an acceptance that employees do experience stress at work. This was then followed by an analysis of the potentially stressful situation, identifying the hazards involved, and assessing the risk to health associated with those hazards. There then should follow the design, implementation, monitoring and evaluation of reasonable and practicable control strategies. It is now recommended that every responsible employer should undertake a risk assessment of

its employees in relation to stress at work and put in place strategies to remove or reduce that risk. The HSE (2003) have recently issued draft management standards by which organisations will be assessed in relation to their efforts at risk management for stress.

There are a number of Government documents that are relevant to the well-being of health service staff in the UK. These are ‘Securing Health Together: a long-term occupational health strategy for England, Scotland and Wales’ (Health and Safety Commission, 2000), ‘Towards a Safer Healthier Workplace: occupational health and safety services for the staff of the NHS in Scotland’ (Occupational Health and Safety Service Short Life Working Group, 1999), and the guideline on ‘Managing health at work’ (Partnership Information Network, 2002), amongst others. These documents address the provision of occupational health for staff and NHS staff, and stress is highlighted in each one.

CHAPTER 2:

Methodological Issues in Stress Research

2.1 Introduction

There have been many criticisms levelled at occupational stress research over the years and many recommendations made for the improvement of the methodology employed. Kasl & Amick (1995) made a series of recommendations for what they termed an “ideal non-experimental observational study of occupational stress”. These included identifying the cohort to be assessed prior to any stressor exposure, objective definition and measurement of the environmental conditions to be examined, minimising self-selection into the exposure conditions, assessment of relevant confounding variables and their influence accounted for in subsequent analysis, a period of follow-up, and the inclusion of mediating processes and vulnerability factors. They went on to say that “this ideal is seldom attained”. Since the criticisms levelled at stress research by Kasl (1978) and others there have been a number of methodological advances but there remain key issues which require to be addressed in any study of occupational stress.

2.2 Measurement

The measurement of occupational stress remains an area of confusion with attempts made to measure stressors or psychosocial hazards, strains, and a range of potential intervening variables. Many authors have criticised the use of single, unvalidated, one-off measures (Smith, 2000) while at the same time the measure used needs to be as short as possible to allow the investigation of a range of variables at any one time (Haynes *et al.*, 1999). Some researchers have combined areas of stressors, strains and intervening variables into a single ‘stress audit’ tool whilst others have employed distinct measures to tap the three core areas.

2.2.1 Audit tools

Cartwright *et al.* (1995) listed four stress 'audit' tools which appear to be the most widely used. These consist of the Occupational Stress Indicator (OSI) (Cooper *et al.*, 1988), the Occupational Stress Inventory (Osipow & Spokane, 1983), the Generic Job Stress Questionnaire (Hurrell & McLaney, 1988) and the Work Environment Scale (Moos, 1981). Rick *et al.* (2001) reviewed the published literature on a range of psychosocial hazard measures, including the above, using the inclusion criteria of a minimum sample size of 100, working adults, and full population studies with random or systematic sampling. They only reviewed the Sources of Pressure in Your Job Scale (SPJS) from the OSI rather than the complete measure. In its entirety the OSI attempts to assess sources of pressure, strain outcomes and aspects of individual differences, whereas the SPJS addresses only a range of possible causes of occupational stress. The authors reported that the OSI was the best known and most widely used measure of workplace stress with extensive normative data. Thirteen studies which used the SPJS from the OSI were eligible for inclusion in the Rick *et al.* (2001) review and these indicated overall some problems with validity. The Occupational Stress Inventory was reported by Rick *et al.* (2001) to have limited internal reliability and concurrent validity on the basis of only 2 studies identified in their review. The Generic Job Stress Questionnaire focuses on 13 job stressors as well as measures of distress and 'modifier' variables. Rick *et al.* (2001) found 1 study using this measure from 1990-2000 and therefore could draw no conclusions about its utility. The Work Environment Scale was developed to assess the general work climate and, although widely used, Rick *et al.* (2001) identified only 2 studies in their review. They concluded that there was relatively little evidence about the reliability

and validity of psychosocial hazard measures and therefore it was not possible to recommend one measure over any other.

2.2.2 Stressors

Stressor or psychosocial hazard measures abound and the most common type is the self-report questionnaire. Rick *et al.* (2001) identified 26 such measures using search strategies based on likely combinations of key words, e.g. 'psychosocial and risk assessment'. They reviewed in detail five main measures of psychosocial hazards namely the Job Diagnostic Survey (Hackman & Oldham, 1975), the Job Stress Survey (Spielberger, 1995), Karasek's Measures of Demand and Control/Job Content Questionnaire (Karasek, 1979), Occupational Stress Indicator/Sources of Pressure in Your Job scale (Cooper *et al.*, 1988), and Rizzo and House's Measures/Role ambiguity and Role Conflict (House & Rizzo, 1972). Each was assessed for its reliability, validity and utility. The authors overall conclusions were that little is currently known about the consistency and sensitivity of the measures over time, and that validity of the measures is at best moderate with very limited evidence of predictive validity. They also commented on the lack of "serious (replicated) studies examining the psychometric properties of measures of psychosocial hazards". They felt therefore that they could not recommend the use of any one measure over any other for the measurement of psychosocial hazards.

Rick *et al.* (2001) also commented on the relatively few 'job-specific' measures of psychosocial hazards available despite the fact that jobs do contain some hazards that are unique to them.

2.2.3 Mediators/moderators

The relationship between stressors and strains is not always a direct one. The effect of stressors (the independent variable) on strains (the dependent variable) may be influenced by a third or intervening variable, i.e. a mediator or a moderator.

Moderators change the relationships between independent and dependent variables, either reducing or strengthening it, and form the bulk of the research on intervening variables in occupational stress research. Social support, coping and negative affectivity are some of the most commonly researched moderators (House, 1981; Cohen, 1987; Burke *et al.*, 1993; Heinisch & Jex, 1997). Mediators, on the other hand, relate the stressor to the strain and the relationship breaks down when the mediator is removed statistically. Some researchers have argued that negative affectivity has such a strong moderating effect that it may even act as a mediator in the relationship between certain stressors and strains (Brief *et al.*, 1988).

2.2.4 Strains

The development of measures of outcome or strain variables in occupational stress research has been given much more attention in the literature than the development of causal work characteristics (Parkes, 1982; Tett *et al.*, 1994; Haynes *et al.*, 1999).

However despite this, Rick *et al.* (2001) have recommended an urgent examination of the reliability and validity of existing strain measures in the same fashion as the review they have undertaken of existing psychosocial hazard measures. Examples of strains commonly assessed include anxiety and depression (Smith *et al.*, 2000), physical health (Borrill *et al.*, 1996), and sickness absence (Rees & Cooper, 1992).

2.3 Interpretation of correlations

There are difficulties in interpreting correlations between self-report measures of stressors and those of strains. Frese and Zapf (1988) listed these difficulties as method variance which includes tendency towards the mean and halo effects, content overlap in measures, third variable influences, effects of current well-being, and demand characteristics. It is thought therefore that correlations between stressors and strains as measured by questionnaire over-estimate the extent of the relationship to some degree.

2.4 Cross-sectional versus longitudinal

The majority of studies in the field of occupational stress are cross-sectional whereby measurements are taken at one point in time only. Cross-sectional studies have been said to provide useful descriptive information (Kasl & Amick, 1995) but they are limited in their ability to allow interpretation regarding causality.

There have been calls in the research literature for longitudinal studies of occupational stress (Frese & Zapf, 1988). Longitudinal studies have their own problems such as selection effects whereby, over the course of time, the selection of participants may be biased in some systematic way. They also potentially suffer from uncontrolled third variables which have a significant influence on the relationships under investigation. Time lags between measurement points are also relevant to longitudinal designs as some stressors may have more immediate impacts than others. Those with a more immediate impact require a shorter measurement time frame while those that only result in a negative impact after prolonged exposure require a longer

measurement time frame. Because of these issues, and others, interpretation of causality in longitudinal designs is also not straight forward. In addition, Fingret (2000) asserted that the constant change organisations have been subject to in the recent past means that there has been no “steady state” to measure, a fact which makes the results from longitudinal studies even more difficult to interpret.

Time of stress measurement is relevant for both cross-sectional and longitudinal designs. There are a number of theories that suggest (1) the longer an individual is exposed to a stressor the greater the ill health that results, or (2) the newer an individual is to a job the greater the strain as the stressors are new and coping responses have not yet been developed (Frese & Zapf, 1988). These and other variants or combinations of the exposure time model theories would require different designs to allow any measures to pick up the effects. What is the most appropriate time lag in each situation for each variable under consideration is a question yet to be answered. Research in unemployment is one area where this has been more explicitly defined (Frese & Mohr, 1987).

2.5 Self-selection

When anonymised questionnaires are sent out to even a randomly selected cohort those who return the questionnaires may be a biased sample in some way. Those who feel the issue of occupational stress is not relevant to them may elect not to participate thereby leading to an under-representation of their views. Those who are experiencing work-related strain may over-participate resulting in an over-representation of their views. Those who are ill or have been made ill at least partially through their work

may have left the workplace or may be absent more often. Such factors may result in an over-representation of healthy workers (Waldron *et al.*, 1982; Frese & Okonek, 1984). Sending questionnaires to the workers home address helps to overcome these problems to some extent. However, Borrill *et al.* (1996) who undertook a survey of non-responders to their postal survey of health service staff, found that the reasons for non-compliance ranged from the questionnaires being seen as too long, insufficient time to complete it, not having received the questionnaire and concerns regarding confidentiality. There was no evidence that responding was systematically related in any way to mental health.

Clark Johnson *et al.* (2000) acknowledge that some degree of sampling bias is inherent in a survey methodology therefore the goal should be to optimise the representativeness of the study sample obtained. This can be done by using a range of population parameters which are available within the organisation in question against which the study sample can be compared. These can include gender, age, pattern of working etc.

2.6 Self-report

The sole reliance on so-called 'subjective' self-report measures in stress research has been heavily criticised (Cox, 1993; Cox *et al.*, 2000). However, there is an argument that, as stress is an experience based on the perception of a mismatch between demands and resources to meet those demands, subjective report has to be paramount. For example, Stansfield *et al.* (1999), in a longitudinal study of civil servants, found that externally assessed work characteristics did not predict psychiatric disorder. From

this they concluded that the effects of working conditions on future mental health were more likely to be mediated through the individual's perceptions of work. A confirmation perhaps of the need for assessment based on subjective report.

Frese & Zapf (1988) outlined the three main reasons for employing more 'objective' measures as (1) practical; in that strategies to reduce or remove stressors that have been shown to produce strain would be more appropriate, (2) theoretical; with the move back to including the objective environment in the cognitive process, and (3) methodological; to address the trivial correlations that occur between subjective measures and ill health.

Self-report questionnaires have been criticised as being purely subjective, however some authors have suggested that such questionnaires consist of items which are more or less objective depending upon the degree of cognitive and emotional processing required. For example, Frese & Zapf (1988) have argued that questionnaire items requiring a minimum of such processing are likely to be less prone to subjective interpretation. In addition, studies have shown that there is a high correlation between expert ratings and subjective assessments of the same job conditions (Spector, 1992). It is likely however that current well-being will influence the judgement of stressors and vice versa (Frese & Zapf, 1988).

One of the most common methods of collecting 'objective' data in the field of stress research is that of observer ratings (Frese & Zapf, 1988). There are many criticisms of this approach including the reliance on the cognitive and emotional processing of information by the observer, the time limits on the period of observation, the

impossibility of observing mental processes, the effects of observation on work behaviour, and the representativeness of workplaces which will allow some form of observation (Frese & Zapf, 1988). All of these problems can lead to an under-estimation of the relationship between stressors and strains.

A reliance on more than one method of data collection would overcome this criticism to a degree (Frese & Zapf, 1988; Cox, 1993), but this is not always easily achievable. Triangulation, the strategy of fixing a particular position or finding by examining it from at least three different points of view (Cox *et al.*, 2000), has been recommended as such an approach. The degree of agreement between these different points of view provides some indication of the reliability of the data.

2.7 Size of correlation

It is generally the case that researchers report small correlations between measures of stressors and measures of strains (Frese & Zapf, 1988). There are many reasons for this including the difficulties of valid and reliable measurement, the number and roles of moderators, and the impossibility of assessing all of the potential stressors existent in any one workplace. In addition, the workplace is but one potential stressor area in an individual's life (Frese & Zapf, 1988) among many others including, for example, family relationships, financial concerns, child care issues and so on. It is likely that these non-work issues would also have an effect on strain outcomes. Not only that but ill-health is the result of more than just recent stressors. Genetics, early life experiences and environmental factors have all been shown to have a role to play (e.g. Arvey *et al.*, 1989). Given this, it is only to be expected that the correlations between measures of work stressors and strains would be relatively small. That is not to say

that small correlations are not important (Abelson, 1985; Frese, 1985) and do not have any practical ramifications. Frese & Zapf (1988) argue that it is not small correlations which should concern researchers but rather large correlations as these could be the result of using independent and dependent measures with a similar content.

Kasl & Amick (1995) proposed that “when the research strategy becomes more focused in terms of the selection of target occupations, the use of theory to guide selection of work stressors, and a careful choice of outcome variables, we may expect greater pay-off in terms of linkages between subjective stressors and biological outcomes”. It is probable then that when research methodology in occupational stress achieves these standards, obtained correlations between stressor and strain measures should increase.

2.8 Response rate

Response rate is an important issue as a low response rate would likely not allow firm conclusions to be drawn and would be suggestive of a lack of representativeness.

Postal survey methodologies tend to have a poorer response rate than many other forms of data collection. Large scale postal surveys have recorded response rates ranging from 36% to 83% (Fotinos-Ventouratos & Cooper, 1998; Stansfield *et al.*, 1999; Smith *et al.*, 2000). The typical response rate is of the order of 55%.

2.9 Representativeness

Possibly even more crucial than an adequate response rate, is the representativeness of the study sample under investigation. In order to draw conclusions about the larger population from which the study sample is drawn, the proportion of a range of job and personal demographics needs to be similar in each group. Typical demographics used to determine representativeness include gender, age, pattern of working (i.e. full-time versus part-time), etc.

2.10 Summary

Given the above, it would appear that, in order to enhance the robustness of the study methodology the following needs to be taken into account:

1. Selection of appropriate measures to tap the constructs under investigation.
2. Caution in interpretation of correlations, particularly where these correlations are large.
3. Acceptance of the limitations of a cross-sectional design.
4. Awareness of the influence of self-selection.
5. Wherever possible, minimising the subjectivity of self-report measures.
6. Maximising response rate and ensuring representativeness.

2.11 Model of the present study

The application of a theoretical model to research in the area of occupational stress has been variable. Some researchers do not attempt to employ a theoretical model at all, some use very simplistic models and others develop overly complicated models from which it is extremely difficult to draw any conclusions for intervention (Jones *et*

al., 1998). The most widely accepted models of occupational stress are the psychological models of the interactional and transactional approaches as outlined in Chapter 1. The present study of occupational stress in healthcare personnel uses an interactional model as the theoretical basis taking into account the criteria listed in Jones and Bright (2001) for evaluating stress theory. This model assumes that three broad areas of stressors (work and non-work), mediators and/or moderators, and strains interact in the process of occupational stress which could have the potential to result in physical and/or psychological ill health. The model used is illustrated in Figure 2.1 and the detail of which will be discussed in the following sections.

2.11.1 Stressors

A range of generic stressors, both in working life and also in life outside work, are considered as 'external' factors. These are work-related understanding, predictability and control; role conflict; role ambiguity; and job future ambiguity. Non-occupational stressors are assessed in five key areas of housing, finances, spouse/partner, child care and leisure/social life. Profession-specific stressors are assessed separately for the three occupational groups. Nurses are considered to have specific stressors which include dealing with patient's families and conflict with doctors, for instance. Medics and P.A.M.'s particular stressors include, for example, issues to do with clinical responsibility and demands on time. The third group of management and support staff are thought to have potential stressors to do with the managerial role and career prospects, for example. More 'objective' assessment of time spent on core work areas is assessed using work demands.

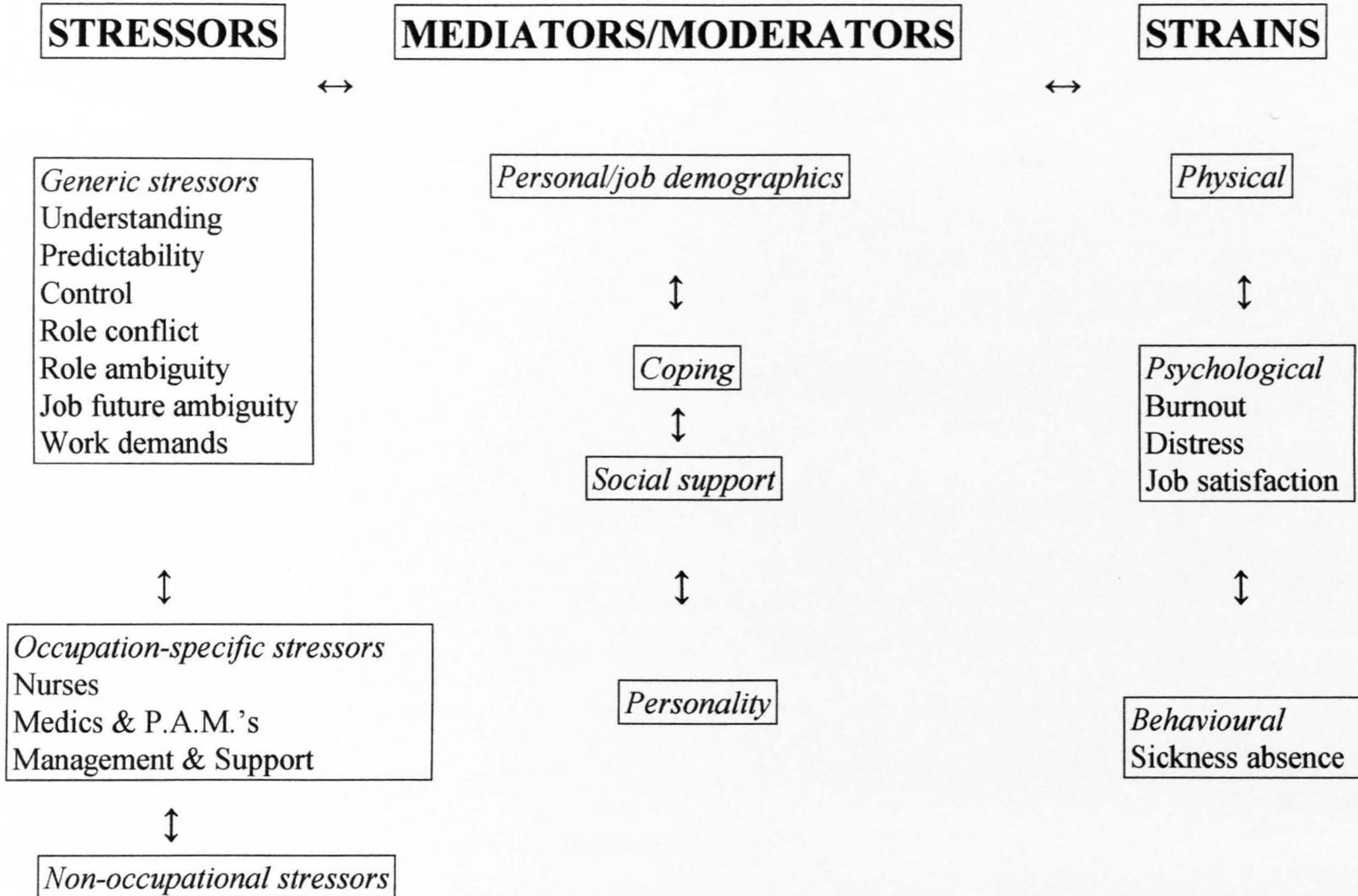


Figure 2.1: Interactional model of occupational stress in health service personnel

2.11.2 Mediators/moderators

A range of job and personal demographics such as pattern of working, length in post, age, gender, etc. are assessed as potential intervening variables. In addition, the roles of coping and social support are also assessed. Given the crucial role of individual disposition in the stress process negative affectivity, an aspect of personality, is also measured.

2.11.3 Strains

The outcome areas of the stress process, i.e. physiological, psychological and behavioural, are all assessed with the emphasis on psychological. The frequency of common physical symptoms and signs is assessed. Burnout, psychological distress and job satisfaction are measured as the psychological strain indicators. Self-reported sickness absence is used as the behavioural strain indicator.

All three areas are considered to be inter-connected in terms of their experience and together they make up the assessment of the stress process.

2.12 Plan of this document

Chapter 3 describes in detail the literature pertaining to occupational stress in healthcare personnel specifically in relation to burnout, medical and P.A.M.'s stressors, job satisfaction and social support.

The methodology, selection of participants, measures used, procedure and detailed research questions of the present study are outlined in Chapter 4.

Chapter 5 addresses the issue of burnout in psychiatric nursing using the Maslach Burnout Inventory as the measurement tool (Maslach & Jackson, 1981b). The MBI is the dependent measure in an interactional model where generic, nursing and non-occupational stressors, coping, social support and personality are also assessed. The ability of these variables to predict burnout will be examined.

Chapter 6 outlines the investigation of occupational stress in medical staff and the professions allied to medicine using the Specialist Doctors Stress Inventory (Agius *et al.*, 1996) as the profession specific stressor measure. Differences between the two groups will be assessed and combinations of variables used to predict reporting of stressors.

Chapter 7 aims to examine job satisfaction, using the Warr-Cook-Wall (1979) measure, in health service management and support staff. Differences between groups on job satisfaction will be assessed and combinations of variables used to predict job satisfaction.

Chapter 8, as the final results chapter, describes the moderating effect of social support in health service personnel using the House & Wells (1978) social support measure. The relationships between the three stressors of role conflict, role ambiguity

and job future ambiguity, and three strains, namely job satisfaction, emotional exhaustion and psychological distress, are examined.

Chapter 9 outlines the conclusions from each of the above chapters and makes recommendations for both future research in the area and for interventions in the stress process for health service personnel.

CHAPTER 3:

Occupational Stress in Health Service Personnel

3.1 Introduction

The research literature on occupational stress is extensive and covers a wide range of occupational groups. Healthcare personnel are of particular interest in relation to occupational stress as the National Health Service in the UK employs a significant number of people, over one million in 1996 (Borrill *et al.*, 1996), and it has been described as the largest employer in the UK (Rees, 1995). In Scotland it serves as one of the main employers. Haynes *et al.* (1999) also maintain that healthcare personnel are of theoretical interest in that they are likely to be exposed to the full range of factors which have, to date, been implicated in the experience of work-related strain. Not only that, but healthcare personnel are seen by some (Payne & Firth-Cozens, 1987) as being particularly susceptible to developing stress-related illness because of the unique nature of their work.

3.2 Occupational stress literature in healthcare personnel

As previously described in Chapter 1, section 1.7, a literature search using the terms 'occupational stress and 'work stress' was conducted using a number of databases and the time frame of 1980 to May 2003. Of the 115 large-scale (i.e. greater than 1,000 participants) surveys from 2000 to May 2003 identified using the above search terms, 24 appeared to have healthcare personnel as participants.

In Table 3.1 some of the most relevant large scale surveys undertaken between 1990 and 2003 on healthcare personnel are outlined. In 1992 Rees and Cooper surveyed 1,176 staff from one health authority using the OSI. Compared to the normative sample, healthcare personnel had significantly greater pressure at work, but fewer

Date/Authors/Country	Sample/Response rate	Methodology	Measures	Findings
1992 Rees & Cooper England	NHS health authority N = 1,176, representing RR = 67%	Cross-sectional Stratified sample Postal questionnaire	1. Personal/job demographics 2. OSI 3. Sickness absence	<p>Compared with normative data sample had:</p> <ul style="list-style-type: none"> • Significantly greater pressure at work. • Significantly lower levels of Type A personality. • More frequent use of coping strategies. • Fewer symptoms of mental ill-health. • Similar levels of job satisfaction. <p>1 in 12 had stress symptoms at a level equivalent to out-patient clinical psychology patients.</p> <p>General managers reported:</p> <ul style="list-style-type: none"> • Lowest levels of pressure. • Lowest levels of ill-health. • Highest levels of job satisfaction. • Lowest sickness absence. <p>Nurses reported:</p> <ul style="list-style-type: none"> • Highest pressure. <p>Ancillary & Scient./Tech.:</p> <ul style="list-style-type: none"> • Very low levels of job satisfaction. • High sickness absence.

Table 3.1: Large scale studies of occupational stress in healthcare personnel

Date/Authors/Country	Sample/Response rate	Methodology	Measures	Findings
1996 Borrill <i>et al.</i> England	19 NHS Trusts N = 11,637, representing RR = 50.5%	Cross-sectional with longitudinal cohort Questionnaires delivered by hand to workplaces	<ol style="list-style-type: none"> 1. Biographical 2. Work-related factors: <ul style="list-style-type: none"> • Role ambiguity • Role conflict • Feedback • Supervisory leadership • Work demands • Social support • Influence • Autonomy/control 3. Professional compromise 4. Patient contact 5. GHQ-12 6. Physical health 	27% probable 'cases'. Managers highest % 'cases', especially female managers. % 'cases' greater in NHS employees. Levels poor mental health differ according to Trust. Worse mental health associated with higher demands, more role ambiguity, more role conflict, less support, less feedback, less influence & less professional compromise.
1997 Alexander Scotland	NHS Trust staff N = 2,294, representing RR = 43%	Cross-sectional Postal questionnaire to all staff	<ol style="list-style-type: none"> 1. Purpose-designed: Satisfaction with: <ul style="list-style-type: none"> • Environment • Communication • Job demands • Relationships at work • Pay/conditions 2. Management style 3. Frequency violence/ aggression 4. Degree job insecurity 5. GHQ-28 	Most satisfied with environment and communication. Most dissatisfaction with staffing levels. Satisfaction with relationships declines as the hierarchical gap widens. 31% \geq 5 on GHQ. % 'cases' highest in PAM's/tech., lowest in doctors.

Date/Authors/Country	Sample/Response rate	Methodology	Measures	Findings
1998 Quine England	NHS Trust staff N = 1,100, representing RR = 70%	Cross-sectional Postal questionnaire to all staff	<ol style="list-style-type: none"> 1. Job/personal demographics 2. Job satisfaction 3. Propensity to leave 4. Job-induced stress 5. HAD 6. Work demands 7. Work support 8. Job control 9. Lifestyle factors 	<p>34% < mean for job satisfaction.</p> <p>36% > cut-off for job-induced stress.</p> <p>26% > cut-off for propensity to leave.</p> <p>17% > cut-off for anxiety.</p> <p>4% > cut-off for depression.</p> <p>High demands significantly associated with greater stress whatever the level of support.</p> <p>Support had a buffering effect on the relationship between high demand and depression.</p> <p>High demands & low control resulted in the highest levels of stress.</p>

symptoms of ill health and similar levels of job satisfaction. Nurses as a group reported the highest levels of pressure while managers reported the lowest. A very large scale survey of 11,637 healthcare personnel from 19 Trusts in England was undertaken by Borrill *et al.* (1996). These authors claimed that, until then, “no comprehensive and systematic investigation of the psychological well-being of the NHS workforce” had been conducted. They found that worse mental health was associated with higher demands, more role ambiguity, more role conflict, less support, less feedback, less influence and less professional compromise. A satisfaction survey of 2,294 staff from one Trust in Scotland (Alexander, 1997) found that, of all the aspects of work assessed, staff were most dissatisfied with staffing levels. Quine (1998) reported that, from 1,100 Trust staff, high demands were significantly associated with greater stress whatever the level of support. In this study high demands and low control resulted in the highest levels of stress.

The research to date on stress in healthcare staff has resulted in conflicting evidence (Spector, 1999). There is a substantial body of evidence which points to healthcare personnel having high levels of strain (Wall *et al.*, 1997) whilst other authors have reported relatively low levels compared to other occupations (Houtman & Kompier, 1995). The following sections will review the literature on particular topics of interest for the three occupational groupings namely burnout in Nurses, stressors in Medics/P.A.M.’s, job satisfaction in management and support staff, and the moderating role of social support for the clinical staff.

3.2.1 Burnout in nurses

Burnout is a phenomenon said to particularly occur in occupations where a significant proportion of time is spent in close involvement with other people (Pines & Maslach, 1978; Maslach & Jackson, 1981a, 1982; Muldary, 1983). It was first introduced as a concept in the literature by Freudenberger (1974) in relation to front-line human service workers. Burnout is characterised by a combination of feelings of being emotionally drained (emotional exhaustion), the development of negative attitudes and feelings towards the recipients of care (depersonalisation) and a growing devaluation of self-competence and overall achievement in the job (reduced personal accomplishment) (Maslach & Jackson, 1981a).

It has been postulated that burnout is correlated with a range of self-reported psychological and physical strain indicators such as tension and irritability (Muldary, 1983; Duquette *et al.*, 1995), fatigue (Maslach & Jackson, 1982; Costantini *et al.*, 1997), headache and sleep disorders (Costantini *et al.*, 1997). Burnout has been implicated in reductions in quality of care and service delivery, absenteeism and job turnover (Pines & Maslach, 1978; Maslach & Jackson, 1981a, 1982; Perlman & Hartman, 1982; Muldary, 1983; Vanyperen *et al.*, 1992; Cox, 1993; Duquette *et al.*, 1995).

There exist a number of measures designed to assess the construct of burnout. The most commonly reported include the Maslach Burnout Inventory (MBI; Maslach & Jackson, 1981b, 1993), the Burnout Measure (originally termed the Tedium Scale; Pines, Aronson & Kafry, 1981; Pines & Aronson, 1988), the Staff Burnout Scale for Health Professionals (Jones, 1980), and the Alienation Index (Berkeley Planning

Associates, 1977). The most widely employed measure is the MBI which has been shown to have both high reliability and validity (Maslach & Jackson, 1981b; Corcoran, 1995) and a replicable three-factor structure in most samples (Green & Walkey, 1988; Green, Walkey & Taylor, 1991; Schaufeli & Van Dierendonck, 1993).

There are a number of research reviews on burnout, one of which includes a range of occupations and another which specifically addresses burnout in nursing (Perlman & Hartman, 1982; Duquette *et al.*, 1994). Perlman & Hartman (1982) reviewed the burnout literature from 1974 to 1980 and presented in their paper forty-eight studies, only five of which incorporated some form of statistical analysis. Of these, only one looked at human service professionals and of the entire forty-eight, only one, a descriptive study, specified nurses as the study sample. Duquette *et al.* (1994) set out to review existing empirical knowledge regarding factors related to burnout in nurses. They employed a set of six exclusion criteria to reduce three hundred documents, including journal articles, doctoral dissertations and masters theses, to a core subsample of thirty-six which they then described in some detail. These thirty-six studies used one of three measures of burnout, namely the Staff Burnout Scale for Health Professionals (Jones, 1980), the Maslach Burnout Inventory (Maslach & Jackson, 1981b, 1993) or the Tedium Scale (Pines, Aronson & Kafry, 1981; Pines & Aronson, 1988). The authors stated that the best correlates for burnout in nurses were role ambiguity, workload, age, hardiness, active coping and social support. Duquette *et al.* (1994) concluded by recommending that future research in this area include use of a multivariate design, use of the Nursing Stress Scale (Gray-Toft & Anderson, 1981), measures of work relationships and coping, and an intervention oriented design.

The existing body of empirical research focusing on burnout in nursing suffers from a number of methodological inadequacies. Descriptive studies using a measure of burnout in nurses often only report percentages scoring low, moderate and high levels of emotional exhaustion, depersonalisation, and personal accomplishment (McGrath *et al.*, 1989) and/or compare the study sample with normative groups (Harper & Minghella, 1997; Butterworth *et al.*, 1999). A number of studies in the area suffer from very small sample sizes (Cherniss, 1992; Thornton, 1992; Harper & Minghella, 1997; Chung & Corbett, 1998) often with no indication of the response rate (Hallberg, 1994; Harvey & Burns, 1994) thereby limiting the generalisability of any conclusions. Other studies where the sample size is adequate may not report the response rate (Pines & Maslach, 1978; Sherwin *et al.*, 1992) or record a very low response rate (Richardson *et al.*, 1992) placing doubt on the representativeness of the population studied. There are many studies that include nurses as part of a larger mixed sample (Firth & Britton, 1989; Leiter, 1991; Wallace & Brinkerhoff, 1991; Kandolin, 1993; Catalan *et al.*, 1996) or draw their groups from a number of varied sites (Shinn *et al.*, 1984; Fagin *et al.*, 1996; Leiter & Schaufeli, 1996; Butterworth *et al.*, 1999) introducing a further confounding factor.

Despite the widespread use of the MBI as the measure of burnout, some authors have preferred to use an alternative such as the Alienation Index (Shinn *et al.*, 1984), the Tedium Scale (McCranie *et al.*, 1987), or the Staff Burnout Scale for Health Professionals (Duquette *et al.*, 1995). One study adopted a semi-structured interview approach based on the constructs of burnout (Pines & Maslach, 1978), while another used Likert scales adapted from the MBI (Wallace & Brinkerhoff, 1991). A number of studies relate burnout to only one other correlate such as sick leave (Harvey &

Burns, 1994), career adaptation (Cherniss, 1992), hope (Sherwin *et al.*, 1992), personality (Iacovides *et al.*, 1997), or hardiness (Costantini *et al.*, 1997).

However, burnout is only one of a range of possible responses to excessive workplace stressors (Muldary, 1983). Many authors have taken the simplistic view that excess pressure will result in burnout without accounting for the fact that, when exposed to the same conditions, some individuals 'burn out' whilst others do not (Muldary, 1983). Furthermore, burnout may not be an automatic consequence of work pressure. A range of work and/or non-work pressures seem to be a necessary precursor to burnout. These include work schedules, work overload, under-staffing, lack of autonomy and power, deficient positive reinforcement, management issues, interpersonal relationships, ineffective social support systems, life events, maladaptive coping strategies, and so on (Muldary, 1983; Cox, 1993).

Much of the nursing and burnout research stems from outwith the United Kingdom (UK) particularly from the United States of America (USA) (Sherwin *et al.*, 1992; Turnipseed, 1994), Australia (Bennett *et al.*, 1991; Thompson & Page, 1992), and Canada (Duquette *et al.*, 1995; Jamal & Baba, 1997), and to a lesser extent various European countries (Hallberg, 1994; Visintini *et al.*, 1996; Costantini *et al.*, 1997; Iacovides *et al.*, 1997). There exists a dearth of studies using samples derived from a Scottish cohort.

In general, studies of psychiatric nurses¹ tend to be rarer (Sutherland & Cooper, 1990b) than studies of either general nurses (Randall & Scott, 1988; McGrath *et al.*, 1989; Iacovides *et al.*, 1997) or nurses who work in a range of specialised areas such as child psychiatry (Hallberg, 1994), learning disability (Harvey & Burns, 1994), midwifery (Beaver *et al.*, 1986), medical and surgical (Dara-Ogus, 1990; Kennedy & Grey, 1997), AIDS and oncology (Bennett *et al.*, 1991; Catalan *et al.*, 1996; Visintini *et al.*, 1996), geriatrics (Duquette *et al.*, 1995), and those in training (Costantini *et al.*, 1997).

3.2.2 Stressors in medics and P.A.M.'s

Levels of psychological distress and other strain indicators, such as alcohol abuse, are said to be higher in medical staff than in the general population (Murray, 1976; Wall *et al.*, 1997; British Medical Association, 1998; Firth-Cozens, 1999). Much less research has been undertaken on the various Professions Allied to Medicine (P.A.M.'s) who, it could be argued, share many of the same work features as medics in that they have substantial patient contact, are more often than not responsible for their own caseload, and carry administrative, research and academic responsibilities as well (Sweeney & Nichols, 1996). Dentists and Occupational Therapists appear to be some of the most studied P.A.M.'s (Cooper, 1980; Cooper *et al.*, 1987; Kent, 1987; Cooper *et al.*, 1988; Sweeney & Nichols, 1996). The experience of such strain can impact on patient care (Firth-Cozens & Greenhalgh, 1997) and lead to reductions in performance levels (Firth-Cozens, 1993), increased accidents and errors (Kirkcaldy *et al.*, 1997) and possible litigation against the organisation (Firth-Cozens, 1999). Job-

¹ This term is used throughout for brevity to denote registered, enrolled and other (auxiliaries, healthcare assistants) nurses working in a range of psychiatric settings.

related causes of strain have been said to include hours of work and lack of sleep (Firth-Cozens & Moss, 1998), relationships with colleagues particularly more senior colleagues (Firth-Cozens, 1995; Baldwin *et al.*, 1997), growing expectations and changing perceptions of patients (Sutherland & Cooper, 1990b; Firth-Cozens, 1999) and fears surrounding errors and the potential for litigation (Vincent, 1999).

There have been numerous measuring tools used to assess job-related stressors in medics and P.A.M.'s including the Health Professions Stress Inventory (Revicki & May, 1985; Wolfgang, 1988), the Occupational Stress Indicator (Rees & Cooper, 1990; Sutherland & Cooper, 1993; Swanson *et al.*, 1996), the Specialist Doctors Stress Inventory (SDSI; Agius *et al.*, 1996; Deary *et al.*, 1996b) and the Sources of Stress Questionnaire (Firth-Cozens, 1998). Many researchers have used purpose-designed scales (Branthwaite & Ross, 1988; Makin *et al.*, 1988; Simpson & Grant, 1991; Ramirez *et al.*, 1995; Gilliland *et al.*, 1998) while some authors do not specify the actual instrument they used (Kirkcaldy *et al.*, 1997).

Much of the research in medical staff has focused on primary care physicians and General Practitioner's (GP's). The range of reported stressors include having to take night calls, dealing with emergencies during surgery hours and interruptions in family life by work-related telephone calls (Makin *et al.*, 1988; Sutherland & Cooper, 1992); feeling ultimately responsible for patient outcomes and having job duties which conflict with family responsibilities (Wolfgang, 1988; Firth-Cozens, 1998); uncertainty and insecurity about work, isolation, poor relationships with other doctors, disillusionment with the role of the GP and an awareness of changing demands (Branthwaite & Ross, 1988; Firth-Cozens, 1998); making mistakes (Firth-

Cozens, 1998); having concerns for personal safety, doing paperwork at home, having no free time, and having been in practice for 10-21 years (Gilliland *et al.*, 1998). Using the Occupational Stress Indicator, Sutherland & Cooper (1993) found that GP's differed significantly from the norm on all six subscales of the 'sources of pressure' subscale. On all but two, i.e. 'career & achievement' and 'organisational structure and climate', GP's scored higher than the norm. Three main stressor themes emerged: the pressures of the demands of the job and patients' expectations, role stressors, and organisational structure and climate. Revicki & May (1985) administered the Health Professions Stress Inventory to a group of family physicians in the US and, using structural equation modelling, found that social and emotional support provided by family members significantly reduced the effects of occupational stress on depression.

Other studies looking at medics in health authorities or hospitals have found differing patterns of stressors. Simpson & Grant (1991) administered a purpose-designed stressor measure to a range of early career physician specialities in the US and found that competence concerns were more problematic than time pressures, business/financial matters, or patient relationships. None of the stressors assessed were related to impaired mental health. Deary *et al.* (1996a) compared a group of consultant psychiatrists working in the NHS in Scotland with a combined group of physicians and surgeons on a range of measures including the SDSI (Agius *et al.*, 1996). The only significant difference they found in self-reported job stress was that male psychiatrists reported more stress from 'organisational constraints' than male physicians and surgeons. Indeed, the ranking of individual stressor items was very similar in the two groups. Of the top five most stressful items, two were 'demands on time' items and two were 'organisational constraints' items. Only one was a 'clinical

responsibility' item. Deary *et al.* (1996a) also found high correlations between overall job stress and neuroticism, emotion-focused coping, emotional exhaustion, psychological distress, de-personalisation and clinical workload.

As regards occupational stress, it would appear that dentists and occupational therapists have been the most studied of the P.A.M.'s. Cooper (1980) found that dentists perceived the most stressful characteristics of their job to be 'coping with difficult patients', 'trying to keep to a schedule' and, to a lesser extent, 'having too much work', 'unsatisfactory auxiliary help' and 'administrative duties'. However, multiple regression analysis revealed that a slightly different pattern of factors, i.e. 'sustaining and building a practice', 'too little work', 'administrative duties', 'coping with difficult patients', 'keeping to a schedule', 'high trait anxiety' and 'age' combined to predict physical health indices associated with coronary risk factors. In a review of the literature in mental health settings Sweeney & Nichols (1996) found that occupational therapists experienced a moderate level of burnout but less job-related stress than other P.A.M.'s and mental health workers, perhaps as a result of the effective use of positive coping strategies. In a survey of senior occupational therapy staff in England and Wales, Allan & Ledwith (1998) used a single item to ascertain the levels of subjective job-related stress. The majority of respondents reported low to medium levels of stress and thirty-four percent reported high or very high levels. Occupational therapists at the higher grades reported significantly greater stress levels than those at the lower grades. There was also a relationship between stress level and hindsight decision to practice and expectation to be in the profession in five years time.

Few studies have set out to compare stressor levels in medics and P.A.M.'s and those that have compared the two professions have often done so in the context of a wider study of all occupational groupings in the NHS. Rees & Cooper (1990) in a comparison of 383 employees of various occupations in a health district, found that doctors reported more pressure intrinsic to their job and from the home/work interface than professional/technical staff, while professional/technical staff reported more pressure than doctors from 'relationships with other people'. Amongst the whole sample, job pressure correlated strongly with mental and physical ill health but not with sick leave. Professional/technical staff had significantly more days sick than doctors. Borrill *et al.* (1996) undertook an extensive survey across 19 Trusts in the UK and included doctors and P.A.M.'s in their sample. They developed measures of work-related factors based on established self-report scales, i.e. role ambiguity and conflict, feedback, supervisory leadership, work demands, social support, influence over decision-making, autonomy and control. They found that the mental health (as measured by the General Health Questionnaire -12) of managers, nurses and doctors was worse than that of the other major occupational groups in the Trusts. Worse mental health was associated with higher work demands, more role ambiguity, more role conflict, more professional compromise, less social support, less feedback and less influence over decision-making. Kirkcaldy *et al.* (1997) found that job-related stress in German medical and dental practitioners was associated with working long hours, having shorter lunch breaks and work-related accidents.

Despite research on medics and P.A.M.'s having been conducted with American (Revicki & May, 1985; Wolfgang, 1988; Simpson & Grant, 1991), German (Kirkcaldy *et al.*, 1997) and other (Gilliland *et al.*, 1998) nationalities, it is difficult to

generalise across cultures. Other researchers have focused on very narrow samples, for example, one medical speciality such as oncologists, radiologists, etc., (Ramirez *et al.*, 1995 & 1996) and it is difficult to generalise beyond the speciality in question.

Fewer studies have been conducted using either medics or P.A.M.'s in Scotland and fewer still in psychiatric services. Alexander (1997) undertook an attitudinal survey of staff in a Scottish Trust without measuring stressors in any standardised way.

However, this study found that significantly more P.A.M.'s/Technical staff would be designated as 'cases' using the General Health Questionnaire -28 than doctors. Agius *et al.* (1996) administered the SDSI and the Consultants Work Demands measure to a range of consultant groups across Scotland including those working in Psychiatry.

They found that the two stressor questions with the highest endorsement rate came from the 'demands on time' subscale. 'Clinical responsibility' was positively correlated with both actual and contracted NHS sessions and negatively with other (non-NHS) salaried sessions. Deary *et al.* (1996b), using the SDSI with a group of consultant doctors in Scotland, tested a transactional model of stress and found a pathway from personality characteristics (chiefly neuroticism) via emotion-focused coping strategies and negative appraisals of organisational changes, through reported job stress to measures of burnout. Swanson *et al.* (1996) administered the

Occupational Stress Indicator to GP's and Consultants in Scotland. Consultants reported greater stress than GP's on three subscales: 'relationships with others', 'career and achievement' and 'organisational structure and climate'. Consultants however scored lower than the norms on five out of the six stress subscales. Levels and sources of stress did not differ significantly between the consultant specialities.

In summarising the above research it appears that considerable attention has been given to assessment of the various individual stressor or strain components among medics or, to a lesser extent, P.A.M.'s. However, no study to date has contrasted medics and P.A.M.'s in Scotland working in psychiatric services on a comparable occupation specific stressor measure. Furthermore, there is a relative dearth of literature that has investigated both medics and P.A.M.'s from an interactional perspective which takes account of the role of occupation specific and generic stressors in the context of a range of possible moderating/mediating factors resulting in the experience of physical, psychological and behavioural strain.

3.2.3 Job satisfaction in management and support staff

Locke's (1976) definition of job satisfaction is "a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences". Measures of job satisfaction therefore attempt to assess the extent to which an employee feels positively or negatively towards his or her job (Locke, 1976; Warr *et al.*, 1979). Job satisfaction has been positively associated with life satisfaction and happiness (Warr *et al.*, 1979), and general mental well-being (Sutherland & Cooper, 1990c; Clark, 1996), and negatively associated with self-rated anxiety (Warr *et al.*, 1979). Job stress (Sutherland & Cooper, 1990c), work overload (French & Caplan, 1973), role ambiguity and role conflict (French & Caplan, 1973; Jackson & Schuler, 1985) have all been associated with low job satisfaction while opportunity for participation (Coch & French, 1948; Margolis *et al.*, 1974) has been associated with high job satisfaction. Job dissatisfaction has been implicated in absenteeism from work (Porter & Steers, 1973; Clegg, 1983), intention to quit (Porter & Steers, 1973; Freeman, 1978) and

labour turnover (Porter & Steers, 1973; Gruneberg & Osborne, 1982; Carsten & Spector, 1987). Job satisfaction and job performance are said to be only slightly related (Iaffaldano & Muchinsky, 1985) in a negative direction (Mangione & Quinn, 1975) however, some authors maintain that there is not necessarily a direct relationship between job satisfaction and job performance (Porteus, 1997) but that there is a mediator variable involved.

There is a substantial literature on job satisfaction across the multitude of occupations and the construct has been examined using a myriad of measurement tools. In some instances a single question has been posed which usually taps overall job satisfaction, but most often a number of items tapping specific facets of job satisfaction have been administered in a multiple choice response format. At a slightly more sophisticated level subscales have been constructed. More often than not these subscales make the distinction between aspects of the job which are inherent to it, e.g. variety of tasks, skill utilisation, usually termed 'intrinsic' job satisfaction, and background features such as pay, security, etc., usually termed 'extrinsic' job satisfaction. The Minnesota Satisfaction Questionnaire (Weiss *et al.*, 1967) and the Warr-Cook-Wall measure (Warr *et al.*, 1979) are examples of scales which adopt such an assessment format, i.e. the degree of satisfaction, about a variety of job features divided into intrinsic and extrinsic subscales. The Job In General scale (Ironson *et al.*, 1989), on the other hand, asks a range of different evaluative questions about the job as a whole. Examples of facet-specific measures include a scale by Quinn & Staines (1979) and the Job Descriptive Index (Smith *et al.*, 1969).

As regards general population surveys, a number exist which have incorporated a measure of job satisfaction, usually administered to a wide range of occupational groupings. Two examples are the British Household Panel Survey (Rose *et al.*, 1991) and the Bristol Stress and Health at Work Study (Smith *et al.*, 2000). As part of the British Household Panel Survey (Rose *et al.*, 1991) 10,000 individuals were asked to rate their satisfaction levels with seven specific facets of their job and to give an overall satisfaction rating. It emerged that British workers seemed highly satisfied with their jobs overall and with the nature of the work itself, but less so with their pay. Women reported higher job satisfaction than men while younger and older individuals were more satisfied than the middle age groups of 20 and 30 year olds. Married workers reported the highest levels of satisfaction overall of any marital status. Poorer health and higher levels of education were associated with less satisfaction. In relation to weekly hours worked, there was a negative association with satisfaction. Focusing on occupational groups, managers reported higher job satisfaction than clerical staff and having managerial responsibilities was strongly positively correlated with satisfaction with the work itself. Smith *et al.* (2000) found, from a random survey of 7,069 individuals on the Bristol electoral register, that those in the high work stress group were more dissatisfied with their take home pay, the way their work section was run and the way their abilities were used than the low work stress group. On the other hand, those in the low work stress group were more satisfied with their work prospects, with their colleagues and with their physical working conditions than the high work stress group.

A large number of studies have examined job satisfaction in managers from a range of public and private sector organisations (for example, Borrill & Haynes, 1999;

Cavanaugh *et al.*, 2000; Yousef, 2000). Cavanaugh *et al.* (2000) conducted a large scale study of 10,000 managers from a range of organisations but, unfortunately, they obtained a rather low response rate of 19% . However, among the 1,886 respondents, they found that self-reported stress that was perceived as a challenge was positively related to job satisfaction while self-reported stress that was perceived as ‘hindrances’ was negatively related to job satisfaction. Yousef (2000) found that among 397 managers in manufacturing and service organisations in the United Arab Emirates 87% were highly satisfied with their jobs. Among this sample, multiple regression analysis revealed that role conflict and role ambiguity independently and negatively affected job satisfaction.

The body of research that exists on job satisfaction in management and support staff in the health service are fewer in number. The tendency has been to concentrate such efforts on the so-called ‘front-line’ staff such as nurses and doctors, or to include all occupations in the one health service sample (Guppy & Gutteridge, 1991; Ramirez *et al.*, 1996; Appleton *et al.*, 1998; Borrill *et al.*, 1998; Butterworth *et al.*, 1999).

An example of the more global approach, where no effort is made to distinguish between the various health service occupational groupings, is that of Alexander (1997). This study consisted of a sample of 2,294 (43%) staff of a Scottish health service Trust which, amongst other purpose-designed scales, asked about satisfaction with environmental features, job demands, professional relationships and pay and conditions. More staff were satisfied than dissatisfied with twelve of the fifteen environmental features but there was more dissatisfaction with facilities for smokers, nursery/crèche facilities and fitness facilities. Of the thirteen issues examined in

relation to job demands, only staffing levels resulted in marginally more dissatisfied than satisfied responses (44% and 42% respectively). Relationships with immediate supervisors and divisional managers were viewed favourably by employees but staff were more dissatisfied than satisfied with relationships with senior management. The section of the survey concerned with pay and conditions revealed higher levels of satisfaction than dissatisfaction on eight of the ten items, the exceptions being 'level of pay/salary' and 'other' which included training, career prospects, special leave, etc. Also, Haynes *et al.* (1999) who, as part of a larger survey of all the occupational groups in a range of health service Trusts in England, used the Warr *et al.* (1979) Job Satisfaction measure in order to establish the construct validity of a number of work characteristics scales. They found that job satisfaction was positively correlated with support from the immediate superior, influence in decision making, role clarity, peer support, feedback on work performance and control over work-related tasks. The measures of role conflict, depression, professional compromise (i.e. the extent to which professional standards have to be compromised in order to achieve objectives), anxiety and work demands were negatively correlated with job satisfaction. As the primary purpose of this study was not to examine job satisfaction per se, no effort was made to distinguish between the occupational groups on this construct.

An exception to this pattern is the work undertaken by Borrill *et al.* (1998) who reported the prevalence of stress as higher among 902 health care managers, using the GHQ-12, than among managers in other work settings. Also, Goldberg & Waldman (2000) who examined job satisfaction without use of any standardised scale but rather used three global items in nursing, clerical, technical, blue collar, professional and managerial employees from a hospital in the US. Among the 244 staff sampled they

found that job satisfaction was positively associated with self-rated physical health and job characteristics (i.e. using skills and abilities, and having autonomy) and, to a lesser extent, with marital status and wage. It was negatively associated with role problems (i.e. role ambiguity and role conflict) and organisational permissiveness (i.e. expectations to be at work when scheduled to be). In other words the better one's perceived health, the more one sees one's job as having positive characteristics, and the higher one's wage the more one was satisfied. While the more role problems and the more there was a permissive attitude to being at work the less one was satisfied. Interestingly, job satisfaction was not significantly related to any absence measures.

Notwithstanding the above it would appear that studies which compare the so-called non 'front-line' staff of the health service, i.e. management and support staff, on measures of job satisfaction are lacking. Yet, arguably these groups of staff are the back-bone of the health service and without them the 'front-line' staff could not function. Indeed, a study by Caplan (1994) found no difference in the prevalence of stress, using the GHQ-12, among managers, consultants and GP's. It would seem then that health service managers, at least, are as worthy of study in relation to aspects of occupational stress such as job satisfaction as are the other, more usually, investigated groups of health service staff.

3.2.4 The moderating role of social support

Supportive relationships and their influence on psychological well-being is a well researched area (Sutherland & Cooper, 1990d). Social support has been defined as "an exchange of resources between at least two individuals perceived by the provider or recipient to be intended to enhance the well-being of the recipient" (Shumaker &

Brownell, 1994) or “the provision of positive psychological, emotional, and material resources to a person through interpersonal relationships” (Quick *et al.*, 1996). House & Wells (1978) stated that individuals may be said to have social support when “they have a relationship with one or more other persons which is characterised by relatively frequent interactions, strong and positive feelings, and especially perceived ability and willingness to lend emotional and/or instrumental assistance in times of need” (p. 9).

Social support has been shown to be negatively associated with overall job stress (Smith *et al.*, 2000) and chronic occupation-specific stress (Beehr *et al.*, 2000). In particular, it has been negatively associated with job insecurity and intention to quit (Lim, 1996; Deeter-Schmelz & Ramsey, 1997) and positively associated with job performance (Deeter-Schmelz & Ramsey, 1997). Individuals who lack social support report more physical and psychological ill-health than those who have support (LaRocco & Jones, 1978; Borrill *et al.*, 1996). A lack of social support, particularly support from supervisors, has been associated with burnout (Leiter & Maslach, 1988; Schaufeli, 1999), job dissatisfaction (De Jonge & Schaufeli, 1998) and increased risk of psychiatric disorder (Stansfield *et al.*, 1999). Social support resources have been implicated in ischaemic heart disease, angina pectoris, hypertension and mortality (Medalie *et al.*, 1973; Ruberman *et al.*, 1984; Knox *et al.*, 1985; Hibbard & Pope, 1992).

Relationships at work, both between supervisors and employees and amongst co-workers, are the main sources of support in the workplace (Sutherland & Cooper, 1990d). An early investigation into the relationship between occupational stress and

social support (LaRocco *et al.*, 1980) supported a buffering hypothesis. Many authors (French & Caplan, 1973; Beehr & McGrath, 1992) reported that high levels of support from co-workers had the effect of reducing job strain. The spouse and/or the family are often cited as major sources of work and non-work support (Gutek *et al.*, 1988) in that such individuals listen to their relatives/friends work-related problems and offer problem-solving advice. The literature suggests that spousal and family support may have both moderating (Cohen & Wills, 1985) and direct effects (Burke & Weir, 1977) on the experience of job-related stress. It has also been shown however that certain types of job stress may result in reduced social support (Atkinson *et al.*, 1986) as individuals withdraw socially and contact with them becomes non-reinforcing or even aversive.

Social support is generally perceived as a positive experience but social relationships can have negative as well as positive consequences with relationships at work constituting a potential source of stress. Interpersonal relationships at work are listed as one of the nine work characteristics considered to be hazardous by Cox (1993). Working with non-supportive supervisors and colleagues is more likely to be associated with reported stressors at work (McLean, 1979) and job dissatisfaction (Kahn *et al.*, 1964). Other authors have indicated that spousal and family support can have detrimental as well as beneficial effects by reinforcing sick role behaviour (Rook, 1985), or encouraging maladaptive coping strategies (Kobasa & Puccetti, 1983) for instance.

House (1981) proposed four main forms of support, i.e. emotional, instrumental, appraisal and informational. Probably the most commonly recognised form is that of

emotional support which is generally understood as primarily coming from family and friends and includes empathy, concern, etc. Instrumental support tends to be more practical and includes the provision of money, time, etc. Support in the form of advice and suggestions is termed informational while appraisal support encompasses feedback, affirmation and so on. Cobb (1976) postulated that social support consisted entirely of the perception by an individual that he/she is cared for, valued and has a network in which others can be counted on should the need arise.

The two main models of the effects of social support in the field of occupational stress are the moderating and the main effect models. The moderating model proposes that social support acts as a third variable influencing the relationship between a predictor variable, such as job insecurity, and an outcome variable, such as job satisfaction, (Lindley & Walker, 1993; Lim, 1996). The possible roles of a moderator variable can be subdivided into altering the impact of (i) job stress on job strain (ii) job stress on mental and physical health and (iii) job-related strain on mental and physical health. The main effects model would propose that, for instance, higher levels of social support are directly associated with better mental health (Stansfield *et al.*, 1999). It would appear that there are a number of other variables such as gender, the source of the support, the type of stress and the nature of the observed outcome which determine whether a main or moderating effect is in operation (Fenlason & Beehr, 1994). In addition, the matching or specificity hypothesis (Viswesvaran *et al.*, 1999) would expect that not all types of social support would have the same effects across all situations. The current research evidence appears stronger for a main effect of social support (Ross *et al.*, 1989; Cummins, 1990; Beehr *et al.*, 2000) with

moderating effects being more modest and selective (Beehr *et al.*, 1990; Sutherland & Cooper, 1990d).

The relationships between social support and a range of stressors and strains have been quite widely examined in the research literature. Role conflict, which refers to incompatible demands on individuals, and role ambiguity, which reflects uncertainty and unpredictability in relation to expected role behaviour (O'Driscoll & Cooper, 1996b) have both been extensively researched (Fisher & Gitelson, 1983) and have been found to have a wide range of correlates including job satisfaction and absence (Jackson & Schuler, 1985), mental health (Borrill *et al.*, 1996) and social support (House & Wells, 1978). Another stressor, job insecurity, i.e. uncertainty in relation to job continuity, is an increasing concern for many employees (Lim, 1996; Nicholson, 1996), indeed it has been proposed as "one of the single most salient sources of stress for employees today" (O'Driscoll & Cooper, 1996b). The health service has not been immune to such concerns with the re-organisation of health service provision across the UK leading to an atmosphere of change and insecurity (Sutherland & Cooper, 1990b). Greater job insecurity has been associated with higher levels of job stress and health problems, and lower levels of social support, morale and reduced productivity (Sutherland & Cooper, 1990; Lim, 1996). Job stress, role ambiguity, role conflict and social support have all been associated with the strain measure of low job satisfaction (House & Wells, 1978; Jackson & Schuler, 1985; Sutherland & Cooper, 1990c). Job dissatisfaction has also been implicated in absenteeism from work (Clegg, 1983), intention to quit (Freeman, 1978) and labour turnover (Carsten & Spector, 1987). A strain indicator said to particularly occur in occupations where a significant proportion of time is spent in close involvement with other people, i.e. burnout,

(Maslach & Jackson, 1981a, 1982) has been correlated with a range of self-reported psychological and physical strain indicators (Duquette *et al.*, 1995; Costantini *et al.*, 1997) and has been implicated in reductions in quality of care and service delivery, absenteeism and job turnover (Perlman & Hartman, 1982; Cox, 1993). Burnout has been shown to be associated with social support (Duquette *et al.*, 1994; Schaufeli, 1999). A commonly used strain indicator in health service employees is that of psychological distress (Caplan, 1994; Borrill *et al.*, 1996). Psychological distress has been shown to be associated with job stress or demands, social support, job satisfaction and suicidal thinking (Caplan, 1994; Borrill *et al.*, 1996; Ramirez *et al.*, 1996).

Investigations of the role of social support in health service employees are less common than those of other occupational groups. Many of the existing studies have been conducted outwith the UK, for example the USA (McKenna & Scholl, 1985; Revicki & May, 1985; Turnipseed, 1994; Barber & Iwai, 1996; Zellars & Perrewe, 2001), Canada (Dara Ogus, 1990; Duquette *et al.*, 1995), Norway (Richardson *et al.*, 1992), the Netherlands (De Jonge & Schaufeli, 1998; De Jonge *et al.*, 2001) and Finland (Kivimaki *et al.*, 2001), and therefore the results cannot necessarily be generalised to the United Kingdom. Often only a very limited healthcare sample is assessed such as doctors (Revicki & May, 1985) or nurses (Firth & Britton, 1989; Kennedy & Grey, 1997). On occasions, only one gender is included or the sample is not a randomly selected one (Dara Ogus, 1990; Turnipseed, 1994). In some instances the sample size is not large enough to draw any firm conclusions (Barber & Iwai, 1996) or the response rate is low (Zellars & Perrewe, 2001) or not recorded (Sparks & Cooper, 1999). Quite a few studies lack any standardised measures of social support

(Cushway *et al.*, 1996; Alexander, 1997; Quine, 1998) or do not specify the measure used (Kennedy & Grey, 1997) making replication impossible. Some investigators have used the 'Relationships with others' subscale of the OSI (Cooper *et al.*, 1988) as their only measure of social support (Rees & Cooper, 1992) while others have only examined one form of support such as emotional support from co-workers (Zellars & Perrewe, 2001). With few exceptions (De Jonge *et al.*, 2001), the majority of studies are cross-sectional in nature with all the limitations this entails. Methods of analysis vary greatly with some studies using only a descriptive approach (McKenna & Scholl, 1985; Quine, 1998) rather than more sophisticated statistical techniques.

The literature on social support in healthcare employees confirms significant associations with a variety of stressors both positively, e.g. job autonomy, influence and role clarity (Haynes *et al.*, 1999; De Jonge *et al.*, 2001) and negatively, e.g. workload, role conflict, and job demands (Richardson *et al.*, 1992; De Jonge & Schaufeli, 1998). Likewise positive relationships with the strains of job satisfaction and organisational commitment (De Jonge & Schaufeli, 1998) and negative relationships with the strains of depression, anxiety, burnout, physical health, sickness absence and propensity to leave are highlighted (Dara Ogus, 1990; Quine, 1998; Sparks & Cooper, 1999; Kivimaki *et al.*, 2001). Some studies report relationships at work as more stressful for healthcare employees than the OSI comparative group (Rees & Cooper, 1992). The supervisory role has been shown to be related to more interpersonal conflict (McKenna & Scholl, 1985) whilst being associated with more perceived support (Duquette *et al.*, 1995). Some authors postulate a non-linear relationship between social support and job strains such as job satisfaction and emotional exhaustion (De Jonge & Schaufeli, 1998). The evidence

for moderating effects of social support are specific, for example in the relationship between occupational stress or work demands and depression (Revicki & May, 1985; Quine, 1998). Other studies have shown a moderating effect of age on the relationship between supervisor support and emotional exhaustion (Turnipseed, 1994). In the very few longitudinal studies undertaken it has been reported that job satisfaction was determined by job demands and workplace social support one year previously, after controlling for gender, age and negative affectivity (De Jonge *et al.*, 2001).

Heitzmann & Kaplan (1988) reviewed a range of methods of measuring social support and found that one of the fundamental difficulties was that there lacked a common definition of social support. Winemillar *et al.* (1993) however, found that many researchers did use standardised instruments of social support. Measures of social support include the Inventory of Socially Supportive Behaviors (Barrera *et al.*, 1981), the Social Support Questionnaire (Sarason *et al.*, 1983), the Social Support Appraisals Scale (Vaux *et al.*, 1986), and the MOS Social Support Survey (Sherbourne & Stewart, 1991). The measure devised by House & Wells (1978) is one of the earliest in the literature and has since been widely used (Deeter-Schmelz & Ramsey, 1997; Swanson & Power, 2001). Tardy (1988) has stated that the House and Wells model is “perhaps the most useful typology of support content” in that it attempts to assess both sources and types of support both from the home and work environments. There is a substantial body of research evidence on the reliability and validity of the measure (House & Wells, 1978; House, 1981; Russell *et al.*, 1987).

3.3 Summary

The 1990's saw a growing popular, academic and clinical concern with the issue of occupational stress in a wide range of work environments. Attempting to identify the extent, nature, sources and impact of stress has come to be regarded as good management practice, adhering to the spirit of the relevant legislation (i.e. The Health and Safety at Work etc. Act, 1974; The Management of Health and Safety Regulations, 1992 & 1999). Methodological weaknesses in existing research into occupational stress in healthcare settings has been detailed previously in this chapter. In general terms it can be criticised for being oversimplistic, atheoretical and not instructive of the appropriate interventions required to alleviate any stress-related problems. Such research has often only provided indications of frequently perceived occupational stressors or an arbitrary indication of the level of psychological distress among a working population. Previous research has also tended to be rather negative in that it concentrates on highlighting apparent problem areas rather than also indicating features associated with low occupational stress and high job satisfaction. The present study attempts to address some of these criticisms in relation to health service personnel.

CHAPTER 4:

Methodology of the Present Study

4.1 Introduction

Previous chapters have outlined the history of occupational stress research and the specific literature on occupational stress in healthcare personnel. Criticisms of previous methodologies have been presented and recommendations for future research discussed. In light of this, the following chapter outlines the methodology of the present study.

4.2 Aims of the study

The present study developed out of a request to the current author, by the management of the Scottish National Health Service Trust in question, to simply help them to identify the levels and sources of occupational stress amongst their employees. Following substantial consultation across the Trust over a period of almost one year with senior management, staff side representatives, partnership forums, etc., it was accepted that a much more detailed and theoretically sound approach, utilising an interactional model of occupational stress among health service personnel, would be appropriate. Staff in the Trust were informed of this approach through articles in the Trust newsletter which also emphasised the confidential nature of the information gathered. Staff were also offered an opportunity to attend a post study feedback session where they were informed of the key findings and given the opportunity to ask any questions of the current author.

Specific aims of the separate components of the study are outlined at the end of this chapter, in section 4.4.

4.3 Study methodology

The model adopted in the present study was an exemplar of the interactional approach as described in Chapter 1. Such a model consists of three inter-related areas namely 'Stressors', 'Mediators/Moderators' and 'Strains'. The majority of the information was obtained using self-report as this is the response format most likely to reassure participants as regards anonymity. Interviewer derived data runs the risk of bias and is also much more expensive to collect. Some attempt was made to examine objective data in relation to sickness absence to produce a triangulation of information (Cox *et al.*, 2000) however, because of the Trust's method of data collection, there was no effective way of matching this data with the relevant respondent groups. The questionnaire format was mixed as regards open-ended and fixed choice responses to provide variety. A balance was struck between coverage of all the elements of the model and the length of the questionnaire. In order to maximise response rates the introductory letter (See Appendix I) emphasised confidentiality and voluntary participation.

Despite the criticisms by a number of authors of the cross-sectional methodology this was the preferred option in order to ensure a sufficiently large and representative sample of employees. A longitudinal approach was outwith the scope of this study.

4.3.1 Selection of the sample

Table 4.1 provides a breakdown of the staff population and participant numbers. Given the minimum acceptable requirement for multiple regression analysis of a ratio of 1:5-10 variables to cases (Tabachnik & Fidell, 1989; Nunnally & Bernstein, 1994), a large sample size was necessary. Details of the designations of all the Trust

employees was provided by the Personnel Department on a Directorate and Occupation basis.

Table 4.1: Staff population and participant numbers

	Nurses	Medics & P.A.M.'s	Management & Support	Total
Numbers employed	1508	404	643	2555
Numbers sampled	1045	276	526	1847
Numbers failed to participate	535	126	317	978
Number participants	510	150	209	869
Response rate	48.8%	54.3%	39.7%	47.0%

Every third employee was removed from the database except where the numbers of a class were less than 5 and then all employees in this category were retained. This ensured a random sampling for the majority of cases and minimised the chances of individuals being identifiable. This procedure resulted in an overall sample size of 1,847 and, of these, 869 participated, i.e. a response rate of 47.0%.

Nurses usually make up the majority of a Trust's employees and it therefore made sense to have them as a group in their own right. Of the 869 participants, 510 were Nurses. These were drawn from an original sample of 1,045 giving a response rate of 48.8%. These included Staff, Enrolled and untrained nurses of all grades. All types of medical staff and the various professions allied to medicine made up the second group. The medics came from all grades and the professions allied to medicine included physiotherapists, occupational therapists, psychologists, dieticians, etc. One hundred and fifty of the sample of 276 medical staff and professions allied to medicine participated giving a response rate of 54.3%. The remainder of the staff

groupings in the NHS primarily consist of managers, administrative and other support staff. Of the 526 management and support staff sampled, 209 participated (response rate of 39.7%).

Three demographic variables were chosen in order to ascertain the representativeness of the study participants. These were age, gender and pattern of working (i.e. part-time versus full-time). As can be seen in Table 4.2, the participants were representative in terms of age and gender but there was a small over-representation of full-time over part-time workers.

Table 4.2: Representativeness of the participants

	Age	Gender		Working pattern	
	Mean (SD)	F N(%)	M N(%)	Full-time N(%)	Part-time N(%)
Employee population (N = 2555)	40.4 (10.2)	2080 (81.4)	475 (18.6)	1466 (57.4)	1089 (42.6)
Study participants (N = 869)	40.7 (9.8)	723 (83.2)	134 (15.4)	555 (63.9)	301 (34.6)
t or χ^2	0.75	4.97		19.39	
df	3422	1		1	
Significance	ns	ns		p < 0.01	

Key: F = Female, M = Male; df = degrees of freedom; ns = not significant

4.3.2 Measures

The core composite questionnaire compiled for the study is presented in Appendix II. In addition to a biographical section, it consists of 11 standardised measures and 1 purpose-designed measure (non-occupational concerns). These measures were selected to reflect the areas under the model described in Figure 2.1 in Chapter 2. The wording and response formats of some of the standardised questionnaires were altered

to enhance their applicability for the target group and achieve comparability with other measures. Certain subscales within questionnaires were omitted to avoid repetition. The response format is a mix of free response and forced choice. It was estimated as a result of the pilot study (described in detail in section 4.3.3.1) that the questionnaire would take approximately 30 minutes to complete.

The total number of questionnaire items differs for the three broad occupational groupings namely (1) Nurses, (2) Medics and Professions Allied to Medicine, and (3) Management and Support staff. All three groups received the 'core' questionnaire consisting of 174 items addressing personal/job demographics, generic stressors, non-occupational stressors, coping, social support, personality, and physical, psychological and behavioural strain. Each of the three occupational groups also received an additional number of questions specific to their professions. These were encapsulated for the Nurses in the Nursing Stress Scale (Gray-Toft & Anderson, 1981) and the Nurses Work Demands (based on Agius *et al.*, 1996); for the Medics and Professions Allied to Medicine in the Specialist Doctors Stress Inventory (Agius *et al.*, 1996) and the Consultants Work Demands Scale (Agius *et al.*, 1996) and for the Management and Support staff in the Sources of Pressure in Your Job Scale from the OSI (Cooper *et al.*, 1988) and the Others Work Demands (based on Agius *et al.*, 1996). This distinction in measures given to each of the groups was an attempt to undertake a more appropriate assessment of a range of professional groups which would provide meaningful information. As stated by Depue & Monroe (1986) "it is only truly meaningful to seek specific explanations of stress for specific groups in specific situations in terms of specific outcomes and as a function of specific processes". The profession-specific questions for the 'Nurses' group, the 'Medics and

Professions Allied to Medicine' group and the 'Management and Support' group numbered 42, 33 and 47 respectively.

The 'core' questionnaire (see Appendix II) included the following measures:

4.3.2.1 Personal demographics (6 items)

- a. Gender (forced choice - 2 categories)
- b. Age (free response)
- c. Marital status (forced choice - 6 categories)
- d. Academic level reached (forced choice - 6 categories)
- e. Partner's working status (forced choice - 5 categories)
- f. Number of children living at home (free response - 3 age bands)

4.3.2.2 Job demographics (10 items)

- a. Professional group (forced choice - 12 categories)
- b. Job grade (free response)
- c. Job base (free response)
- d. Length of time professionally qualified (free response)
- e. Whether working full-time or part-time (forced choice - 2 categories)
- f. Hours worked in the previous week (free response)
- g. Whether working a shift system (forced choice - 2 categories)
- h. Type of shift system (forced choice - 3 categories)
- i. Length in current post (free response)
- j. Length employed by the organisation in total (free response)

4.3.2.3 Generic stressors

The below-listed generic stressor scales, which were administered to the whole sample, are described in detail in sections 4.3.2.3.1 to 4.3.2.3.5 and their directionality is outlined in Table 4.3.

- a. Understanding, predictability and control of job-related events (12 items; Tetrick & LaRocco, 1987)
- b. Role conflict (3 items; Caplan *et al.*, 1980)
- c. Role ambiguity (4 items; Caplan *et al.*, 1980)
- d. Job future ambiguity (4 items; Caplan *et al.*, 1980)
- e. Non-occupational stressors (5 items; purpose-designed)

Table 4.3: Directionality of generic 'stressor' scales

Scale	Higher score denotes	Theoretically possible range of scores
Understanding	High degree of understanding	3-21
Predictability	High degree of predictability	3-21
Control	High degree of control	6-42
Role conflict	High levels of role conflict	3-15
Role ambiguity	Low levels of role ambiguity	4-20
Job future ambiguity	Low levels of job future ambiguity	4-16
Non-occupational stressors	High number non-occupational concerns	0-5

4.3.2.3.1 Understanding, predictability and control (Tetrick & LaRocco, 1987)

The Understanding, Predictability and Control scale is a twelve-item questionnaire devised by Tetrick and LaRocco (1987) based on work by Sutton and Kahn's (1986) definitions. It is designed to assess the extent that a member of an organisation can (i) understand how and why events happen; (ii) predict the frequency, timing, and duration of events in the work environment, and (iii) control the outcomes desired by

effectively influencing the events, things, or others in the work environment. If employees are able to achieve job-related understanding, predictability and control then it is proposed that they will experience less job-related strain from the stressors existing in the work environment. Tetrick & LaRocco (1987) found that Understanding and Control moderated the negative relationship between perceived role stress and job satisfaction. In addition, all three constructs were found to be directly related to perceived role stress. The items are rated on a seven point scale from 'very little' to 'a great extent'. The number of items in the subscales of Understanding, Predictability and Control are 3, 3 and 6 respectively. Two items in the Predictability subscale are reversed scored and for all three subscales the greater the score the higher the job-related Understanding, Predictability and Control. The reliability for the scales in the present study were .77 for understanding, .58 for predictability and .87 for control (Cronbach's alpha).

4.3.2.3.2 Role conflict (Caplan *et al.*, 1980)

Role Conflict was measured on a three-item questionnaire based on that of Caplan *et al.* (1980). The Caplan *et al.* (1980) scale was in turn based on theoretical and empirical research of Kahn *et al.* (1964) and was designed to assess the presence of two or more conflicting demands from role senders (superiors, peers, subordinates). The conflicting demands may come from one person or more than one person. The conflicts may involve competing demands on time or they may involve competing legitimate requests one of which might negate the other. The original items have a cross-sectional estimate of reliability of 0.80 and are intercorrelated from 0.52 to 0.62. The Role Conflict items used were re-worded for the purposes of this study. Items are scored on a five point scale from 'never' to 'very often'. This rating system

has been altered from the original. The higher the score the greater the conflicts in job role. Cronbach's alpha for the scale in the present study was .87.

4.3.2.3.3 Role ambiguity (Caplan *et al.*, 1980)

Role Ambiguity was measured on a four-item questionnaire designed by Caplan *et al.* (1980) to assess the degree of uncertainty or ambiguity about what is required of an individual in the job that they are currently undertaking. A person may find him/herself in a circumstance or role for which there is no precedent. The items were based on previous work by Kahn *et al.* (1964). The cross-sectional estimate of reliability is 0.84 and the items are intercorrelated from 0.48 to 0.71. Items are scored on a five point scale from 'never' to 'very often'. This rating system has been altered from the original. The lower the score the greater the ambiguity. The reliability of the scale in the present study, using Cronbach's alpha, was .83.

4.3.2.3.4 Job future ambiguity (Caplan *et al.*, 1980)

Job Future Ambiguity was measured on a four-item questionnaire designed by Caplan *et al.* (1980) to assess the amount of certainty an individual has about his/her job and career security in the future. The cross-sectional estimate of reliability is 0.79 and the items are intercorrelated from 0.39 to 0.58. Items are scored on a four point scale from 'very uncertain' to 'very certain'. This rating system has been altered from the original. The lower the score the greater the uncertainty. Cronbach's alpha in the present study was .76 for this scale.

4.3.2.3.5 Non-occupational stressors

It is equally important when assessing stress in the workplace to address the issue of non-occupational stressors. Individuals do not come to work in a vacuum but they have a life outside work which can influence the strains they are experiencing. There was no appropriate measure available to assess this area and so one was designed for the purpose. This consisted of five items designed to tap the major life areas of housing, finances, spouse/partner, child care, and leisure/social interests. Individuals were asked firstly to indicate with a YES or NO whether they had any concerns/worries in these areas and secondly (if YES) to what degree these concerns/worries impaired their ability to function well at work on a four-point scale from 'not at all' to 'a great deal'. The total number of YES endorsements were calculated for each individual as was the total degree of impairment reported. The lower the score on both measures the fewer the non-occupational stressors and the lower the degree of associated impairment at work. The scale reliability was .52 in the present study.

4.3.2.4 Mediators/moderators

The below-listed mediators/moderators, which were administered to the whole sample, are described in detail in sections 4.3.2.4.1 to 4.3.2.4.3 and their directionality is outlined in Table 4.4.

- a. Occupational Stress Indicator - 'How you cope with stress you experience' (28 items; Cooper *et al.*, 1988)
- b. Social support questionnaire (13 items; House & Wells, 1978)
- c. Positive and negativity affectivity (20 items; Watson *et al.*, 1988)

4.3.2.4.1 Coping (Cooper *et al.*, 1988)

‘How you cope with stress you experience’ (coping styles questionnaire) is a twenty-eight item measure from the Occupational Stress Indicator (Cooper *et al.*, 1988). The OSI is described as having been developed from a strong theoretical base and therefore having construct validity. However, Cooper *et al.* (1988) state “the design of

Table 4.4: Directionality of ‘mediator/moderator’ scales

Scale	Higher score denotes	Theoretically possible range of scores
<u>Coping</u>		
Total	High use of coping strategies	28-168
Social support		4-24
Task strategies		7-42
Logic		3-18
Home & work relationship		4-24
Time		4-24
Involvement		6-36
<u>Social support</u>		
Total	High levels of social support	0-39
Emotional		0-30
Instrumental		0-9
<u>PANAS</u>		
Positive affectivity	High positive affectivity	10-50
Negative affectivity	High negative affectivity	10-50

the OSI..... might appear overly simplistic and without methodological rigour. We acknowledge this in that we do not claim that the OSI is a ‘test’ - it is an ‘indicator’”.

The main stated aims of developing the OSI were that it should be meaningful, usable, provide a ‘handle’ on occupational stress and not to act as a precise scientific instrument, examine ‘group’ stress, and examine “hidden effects” that cannot be measured easily in other ways. The OSI was developed on British managers but has since been applied to a wide range of occupational groups in a large number of countries. It is described as having face validity and, as the different sections of the OSI are independent in terms of what they are measuring, factorial validity was not

determined across the whole indicator. The original normative statistics are based on a British sample of lower-middle, middle and senior managers (34%, 36% and 20% respectively), who were predominantly male (76%), 20-40 years old (74%), and married (59%).

The coping subscale of the OSI was designed to assess the extent to which individuals use a range of potential coping strategies as ways of coping with stress. Items are rated on a six-point scale from 'Never used by me' to 'Very extensively used by me'. The higher the score the more the strategies are used. The scale can be sub-divided into six intercorrelated (shown in Table 4.5) subscales namely:

- (i) Social support - the degree to which individuals rely on others as a means of coping with stress (4 items)
- (ii) Task strategies - coping with stress through reorganisation of work (7 items)
- (iii) Logic - adopting an unemotional and rational approach to the situation (3 items)
- (iv) Home and work relationship - the role of overlap between work and home lives (4 items)
- (v) Time - the use of time management as a coping strategy (4 items)
- (vi) Involvement - the process of the individual submerging or committing themselves to the situation, i.e. coping by forcing themselves to come to terms with "reality" (6 items).

As regards intercorrelations, the range is described in the Management Guide as "low to moderate" with few relationships inconsistent with expectations. The subscale intercorrelations are outlined in Table 4.5.

Factor analysis of the 'coping' subscale undertaken in the validation of the OSI was dominated by one single factor which accounted for 56.9% of the variance. Factors 2 and 3 account for 8.6% and 2.7% of the variance respectively. The Management Guide does not make clear which items loaded on each factor and to what extent. The

Table 4.5: 'How you cope with stress you experience' subscale intercorrelations

	1.	2.	3.	4.	5.	6.
1. Social support	*					
2. Task strategies	.37	*				
3. Logic	.30	.37	*			
4. Home & work relationship	.61	.26	.22	*		
5. Time	.42	.49	.43	.48	*	
6. Involvement	.56	.33	.35	.35	.36	*

split half reliability coefficients of the coping subscale reported in the OSI manual range from 0.07 for 'Logic' to 0.59 for 'Home and work relationships' (all significant at $p < 0.01$ or better). It was made clear that 'Logic' consisted of only three items and therefore was not truly representative of 'split-half' reliability. It was postulated that the wide range of coefficients produced by the coping subscale could in part be explained by a methodological artefact in that it was the last subscale to be completed and could have suffered from respondent unreliability. Cronbach's alpha in the present study was .84 for the total score. Reliabilities for the subscales were .53 for social support, .56 for task strategies, .55 for logic, .56 for home and work relationship, .25 for time and .50 for involvement.

4.3.2.4.2 Social support (House & Wells, 1978)

The House & Wells (1978) Social Support measure is a thirteen item scale designed to assess the degree of emotional and instrumental (i.e. practical) support available from four different sources, namely work supervisors, co-workers, spouses/partners and relatives/friends. Items 1-10 are rated on a four-point scale from 'Not at all' to 'Very much' and items 11-13 are rated on a four-point scale from 'Not at all true' to 'Very true'. The scale can be sub-divided into two subscales namely 'Emotional' and 'Instrumental' and the contribution from the four groups of individuals listed above can also be examined. The higher the score the more emotional and instrumental social support available. The reliability of the scale in the present study was .84 for the total score, .79 for emotional social support and .62 for instrumental support.

4.3.2.4.3 Positive and negative affect schedule (Watson *et al.*, 1988)

The Positive and Negative Affect Schedule (PANAS) (Watson *et al.*, 1988) is a twenty-item scale designed to assess the predisposition to experience negative or positive mood states. Ten adjectives describe negative moods, e.g. 'distressed', 'upset', 'ashamed', and the other ten describe positive moods, e.g. 'interested', 'excited', 'proud'. Individuals are asked to rate the extent to which each word describes their feelings over specified time periods (in this case 'during the past few weeks') on a five-point scale from 'very slightly or not at all' to 'extremely'. The positive and negative items are summed separately. High PA is "a state of high energy, full concentration and pleasurable engagement, whereas low PA is characterised by sadness and lethargy" (Watson *et al.*, 1988). Low NA is a "state of calmness and serenity" (Watson *et al.*, 1988). An individual's standing on one dimension will not predict his/her status on the other as research has indicated that PA

and NA are largely independent of each other. Negative affectivity is associated with self-reported stress and health complaints, while positive affectivity is associated with social activity and physical exercise. The scale reliabilities in the present study were .87 for positive affectivity and .85 for negative affectivity.

4.3.2.5 Strains

The below-listed strain scales and measures, which were administered to the whole sample, are described in detail in sections 4.3.2.5.1 to 4.3.2.5.5 and their directionality is outlined in Table 4.6.

Table 4.6: Directionality of 'strain' scales

Scale	Higher score denotes	Theoretically possible range of scores
Psysom	High frequency of physiological symptoms	17-85
<u>Maslach burnout inventory</u>		
Emotional exhaustion	High emotional exhaustion	0-54
Depersonalisation	High depersonalisation	0-30
Personal accomplishment	High feelings of personal accomplishment	0-48
<u>General health questionnaire</u>	High psychological distress	0-12
<u>Job satisfaction</u>		
Total	High total job satisfaction	15-105
Intrinsic	High intrinsic satisfaction	7-49
Extrinsic	High extrinsic satisfaction	8-56
<u>Sickness absence</u>	Greater number days off in previous 6 months	0-130
Episodes sickness	Greater number of episodes	n/a

Key: n/a = not applicable

Physical

- a. Psysom (17 items; Burton *et al.*, 1996)

Psychological

- a. Maslach burnout inventory (22 items; Maslach & Jackson, 1993)
- b. General health questionnaire (12 items; Goldberg, 1992)
- c. Warr-Cook-Wall job satisfaction questionnaire (16 items; Warr, Cook & Wall, 1979)

Behavioural

- a. Number of days off sick in the previous 6 months (free response)
- b. Number of separate episodes of sick leave in previous 6 months (free response)

4.3.2.5.1 PSYSOM (Burton *et al.*, 1996)

The PSYSOM (Burton *et al.*, 1996) is a seventeen-item measure designed to assess known psychosomatic and physiological stress symptoms. It forms part of the Glasgow University Work Coping Questionnaire (Burton *et al.*, 1996) devised to assess variables in the 'bio-cognitive cybernetic' model of 'psychological stress' (Hinton & Burton, 1996). This model had been based on the work of Cox & Mackay (1981). Items can be rated on three criteria namely frequency, annoyance and duration. The frequency criterion is used in this instance whereby individuals have to indicate how often they experience the symptoms in their present job on a five point scale from 'never' to 'once a day'. The higher the score the more frequently are psychosomatic and physiological stress symptoms experienced. Cronbach's alpha for the scale was .88.

4.3.2.5.2 Maslach Burnout Inventory (Maslach & Jackson, 1993)

The Maslach Burnout Inventory (MBI - Maslach & Jackson, 1993) is a twenty-two item questionnaire designed to assess the three aspects of the burnout syndrome thought to be a potential result of the chronic stress experienced in some settings where individuals are working continuously with clients under difficult circumstances. The three elements of the syndrome are emotional exhaustion (EE, emotional resources are depleted), depersonalisation (DP, negative, cynical attitudes and feelings towards clients) and reduced personal accomplishment (PA, tendency to evaluate one's work with clients negatively). Cronbach alpha coefficients for internal consistency are .90, .71 and .79 respectively (Maslach & Jackson, 1993). The frequency that the respondent experiences feelings related to each of the twenty-two items is assessed using a six-point scale from 'never' to 'every day'. There is no combined total score on this measure. Test-retest reliability, external validity, and absence of social desirability bias have all been demonstrated in relation to the MBI (Maslach & Jackson, 1981a and b, 1993). A high degree of burnout is reflected in high reported Emotional Exhaustion and high reported Depersonalisation along with reported feelings of low Personal Accomplishment. A low degree of burnout is reflected in low reported Emotional Exhaustion and low reported Depersonalisation along with reported feelings of high Personal Accomplishment. An average degree of burnout is reflected in average scores on the three subscales. The reliability of the three subscales in the present study were .89 for emotional exhaustion, .68 for depersonalisation and .80 for personal accomplishment.

4.3.2.5.3 General Health Questionnaire (GHQ-12 - Goldberg, 1992)

The General Health Questionnaire (GHQ-12 - Goldberg, 1992) is a twelve item scale designed to assess non-psychotic psychiatric disturbance in community and medical settings. The GHQ-12 is a shortened version of the GHQ-60 that has been shown to be equally valid and reliable. Individuals are asked to rate each item on a four-point scale using the anchors 'less than usual', 'no more than usual', 'rather more than usual' or 'much more than usual' or their equivalents. The scale can be scored in two ways. GHQ scoring, where responses are scored 0,0,1,1 respectively, is appropriate for detecting clinical caseness. The recommended cut-off threshold for possible psychiatric caseness (i.e. where clinical intervention may be warranted) in this instance is 2/3. With Likert scoring responses are scored 0,1,2,3 respectively. This is useful for comparing degree of disorder. Cut-offs have not been validated for Likert scoring. Higher scores using either method of scoring indicate a greater probability of clinical disturbance. Cronbach's alpha for the scale in the present study was .90.

4.3.2.5.4 Job satisfaction (Warr, Cook and Wall, 1979)

The job satisfaction measure is part of a measurement of work attitudes and aspects of psychological well-being produced by Warr, Cook and Wall (1979). This sixteen item measure assesses the degree to which individuals report satisfaction with intrinsic and extrinsic features of their job. 'Intrinsic' refers to aspects of personal achievement and task success, and 'extrinsic' arises from features such as additional pay or good working conditions. There are two levels of analysis of this measure. At one level seven items constitute a subscale entitled 'intrinsic job satisfaction' and the remaining eight items constitute a subscale entitled 'extrinsic job satisfaction'. At the second level of analysis there are three further subscales - four items comprising 'job

itself intrinsic satisfaction’; five items comprising ‘working conditions extrinsic satisfaction’; and six items comprising ‘employee relations satisfaction’. Total job satisfaction is the sum of all separate items and overall job satisfaction is reported satisfaction with the job as a whole. Items are rated on a seven point scale from ‘I’m extremely dissatisfied’ to ‘I’m extremely satisfied’ with a higher score indicating greater job satisfaction. The reliability of the scale and subscales in the present study were as follows: .89 for the total, .84 for intrinsic, and .77 for extrinsic.

4.3.2.5.5 Sickness absence

Sickness absence was self-reported as the number of days off in the preceding six months. Respondents were also asked to record the number of episodes these days accounted for.

4.3.2.6 Profession specific stressors

The below-listed profession-specific stressor measures, which were administered to the Nurses (a. and b.), Medics and Professions Allied to Medicine (c. and d.), and the Management and Support staff (e. and f.) respectively, are described in detail in sections 4.3.2.6.1 to 4.3.2.6.6 and their directionality is outlined in Table 4.7.

- a. Nursing Stress Scale (34 items; Gray-Toft & Anderson, 1981)
- b. Nurses Work Demands (8 items; based on Agius *et al.*, 1996)
- c. Specialists Doctors Stress Inventory (25 items; Agius *et al.*, 1996)
- d. Consultants Work Demands Scale (9 items; Agius *et al.*, 1996)
- e. Sources of Pressure in Your Job Scale (39 items; Cooper *et al.*, 1988)
- f. Others Work Demands (8 items; Agius *et al.*, 1996)

<i>Table 4.7: Directionality of profession-specific 'stressor' scales</i>

Scale	Higher score denotes	Theoretically possible range of scores
<u>Nursing stress scale</u>		
Total	High level of reported stressors	0-102
Death & dying		0-21
Conflict with doctors		0-15
Inadequate preparation		0-9
Lack of support		0-9
Conflict with other nurses		0-15
Workload		0-18
Uncertainty concerning treatment		0-15
<u>Nurses work demands</u>		
Total	Greater time spent on areas	0-24
Clinical		0-15
Academic		0-3
Administrative		0-6
<u>Specialist doctors stress inventory</u>		
Total	High frequency of stressfulness	0-75
Clinical responsibility		0-24
Demands on time		0-15
Organisational constraints		0-12
Personal confidence		0-24
<u>Consultant work demands</u>		
Total	Greater time spent on areas	0-24
Clinical		0-15
Academic		0-6
Administrative		0-3
<u>Sources of pressure in your job scale</u>		
Total	Source of high stress	39-234
Factors intrinsic to the job		9-54
The managerial role		11-66
Relationships with other people		10-60
Career & achievement		9-54
<u>Others work demands</u>		
Total	Greater time spent on areas	0-24
Administrative & technical		0-6
Clinical		0-6
Managerial		0-12

4.3.2.6.1 Nursing Stress Scale (Gray-Toft & Anderson, 1981)

The Nursing Stress Scale (NSS; Gray-Toft & Anderson, 1981) is a thirty-four item self-administered questionnaire requiring less than ten minutes to complete. It is designed to assess the major sources of stress and their frequency as experienced by nurses on hospital units. It was based on thirty-four potentially stressful situations that were identified from the literature and from interviews with nurses, physicians and chaplains. The scale was initially developed with nurses from a large private general hospital. Items on the Nursing Stress Scale are rated on a three-point scale from 'never stressful' to 'very frequently stressful'. The higher the score the greater the reported stressfulness. The scale consists of seven subscales as follows:

- (i) Death and dying - stressful situations resulting from the suffering and death of patients.
- (ii) Conflict with doctors - stressful situations that arise from the nurse's interactions with doctors.
- (iii) Inadequate preparation - feeling inadequately prepared to deal with the psychological and emotional needs of patients and their families.
- (iv) Lack of support - the extent to which opportunities are available to share experiences with other nurses and to vent negative feelings of anger and frustration.
- (v) Conflict with other nurses - stress that arises from conflictual situations between nurses and supervisors.
- (vi) Workload - stressful situations that arise from the nurses workload, staffing and scheduling problems, and inadequate time to complete nursing tasks and to support patients emotionally.

(vii) **Uncertainty concerning treatment** - stressful situations may arise in relation to uncertainty concerning patient treatment when the nurse is unsure what to tell the patient or the patient's family about their condition.

Intercorrelations amongst the subscales of the NSS range from .19 to .52 and all seven subscales load highly on a single factor (range .55 to .78). Therefore, a total score that measures the overall frequency of stress experienced by a nurse can be created by adding the individual's responses to all 34 items. The scale can be further sub-divided into 'The physical environment' which constitutes the workload subscale; 'The psychological environment' which is made up of the death and dying, inadequate preparation, lack of support, and uncertainty concerning treatment subscales; and 'The social environment' which is made up of the conflict with doctors and conflict with other nurses subscales. Gray-Toft & Anderson (1981) reported the test-retest coefficient for the total scale to be .81 and a satisfactory level of consistency among items on four different indices. Test-retest reliability for four of the seven subscales exceeded .70 with the lowest being .42 for the 'Inadequate preparation' subscale. Internal consistency measures exceeded .70 for all components with the exception of 'Conflict with doctors' and 'Lack of support'. As regards validity, the total score from the Nursing Stress Scale correlated positively with measures of state and trait anxiety; the higher the score on the NSS the greater the percentage turnover of staff; and, registered nurses, who have more responsibilities, scored more highly than nursing assistants. Cronbach's alpha for the scale total and the various subscales in the present study are displayed in Table 4.8 below.

<i>Table 4.8: Cronbach's alpha for the Nursing Stress Scale</i>	
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Scale	Cronbach's alpha
Total score	.94
Death & dying	.84
Conflict with doctors	.79
Inadequate preparation	.74
Lack of support	.76
Conflict with other nurses	.76
Workload	.81
Uncertainty concerning treatment	.81

4.3.2.6.2 Nurses work demands

This was based on the Consultants Work Demands measure of Agius *et al.* (1996).

This eight item measure, which covered aspects of clinical, academic and administrative demands, was rated on a four-point scale from 'none' to 'a great deal' in terms of the amount of time taken up with each. Cronbach's alpha for the total score was .51, for the clinical subscale it was .48 and for the administrative subscale it was .48. Reliability could not be calculated for the academic subscale as it consisted of only one item.

4.3.2.6.3 Specialist Doctors Stress Inventory (Agius *et al.*, 1996)

The Specialist Doctors Stress Inventory (SDSI; Agius *et al.*, 1996) is a twenty-five item questionnaire derived from the Health Professions Stress Inventory (Wolfgang, 1988); information obtained from focus group sessions with twenty-six Consultants from a range of specialities; and a literature review. As well as being administered to the Medics in the present study, it was also chosen for use with Professions Allied to Medicine as it taps stressors experienced by staff who generally have to manage their own patient caseload. The original measure asked respondents to indicate the magnitude of the contribution of each item to their overall stress level on a five-point

scale from 'No contribution' to 'Big contribution'. The response format was converted to a four-point scale from 'Never stressful' to 'Very frequently stressful' for the purposes of the present study to make it comparable with the Nursing Stress Scale. The twenty-five items of the Specialist Doctors Stress Inventory resulted in a four factor solution to a Principal Components Analysis namely:

- (i) Clinical responsibility - This eight-item subscale had a Cronbach's alpha of .85 with item loadings of a minimum of .53. The items related to concerns about patient care, feelings of responsibility for outcome and other clinical issues.
- (ii) Demands on time - This five-item subscale had a Cronbach's alpha of .66 with item loadings of a minimum of .51. These items concerned the pressures resulting from having to 'juggle' a number of competing work and family demands.
- (iii) Organisational constraints - This four-item subscale had a Cronbach's alpha of .73 with item loadings of a minimum of .56. These items focused on the pressures arising from a lack of resources and interprofessional restrictions in terms of conducting the job.
- (iv) Personal confidence - This eight-item subscale had a Cronbach's alpha of .76 with item loadings of a minimum of .45. These items addressed concerns about maintaining peer-perceived and self-perceived professional competence, self-confidence and career progression.

The total score for the whole scale represented a 'stress' score and the higher the score the greater the reported stressfulness. The reliabilities of the scale and the subscales in the present study are compared with the original data in Table 4.9 below.

Table 4.9: Comparison of Cronbach's alpha in the original SDSI study and for the present sample

Scales	Present study	Agius <i>et al.</i> (1996)
Total score	.91	Not reported
Clinical responsibility	.76	.85
Demands on time	.87	.66
Organisational constraints	.79	.73
Personal confidence	.81	.76

4.3.2.6.4 Consultants Work Demands Scale (Agius *et al.*, 1996)

The Consultants Work Demands Scale was developed by Agius *et al.* (1996) to determine actual work demands that can not necessarily be derived from an individual's job title or working location. This measure was administered to the Medics and Professions Allied to Medicine in the present study. The nine item measure, which covers aspects of clinical, teaching, research and administrative duties, was reduced to eight for the purposes of the present study. The original scale was scored on a ten point visual analogue but this was converted to a four-point rating scale from 'None' to 'A great deal' for the purposes of the present study. In the original study by Agius *et al.* (1996) the five 'clinical duty' items were significantly intercorrelated. There were also significant but weaker intercorrelations between the other four items. Principal Components Analysis showed that three factors accounted for 34.7% of the variance providing three scales namely 'Clinical', 'Academic' and 'Administrative'. Cronbach's alpha for the Clinical and Academic factors was .81 and .62 respectively. Clinical work demands was found to correlate positively with the Personal Accomplishment dimension of burnout while Academic work demands correlated less strongly and in a negative direction with the Depersonalisation and Emotional Exhaustion elements. Cronbach's alpha in the present study was .66 for the

total score, .65 for the clinical subscale and .66 for the academic subscale. The administrative subscale had only one item and therefore the Cronbach's alpha could not be calculated.

4.3.2.6.5 Sources of pressure in your job scale (Cooper *et al.*, 1988)

The Sources of Pressure in your Job Scale (SPJ - Cooper *et al.*, 1988) was originally a sixty-one item measure from the Occupational Stress Indicator (Cooper *et al.*, 1988). For the purposes of this study the scale was reduced to a thirty-nine item measure by removing two of the six subscales namely 'Home/work interface' and 'Organisational structure and climate'. The reduced scale was administered to the Management and Support staff in the present study. The SPJ scale was designed to assess the degree of pressure asserted by a wide range of work-related stressors. Because of this it was administered to managerial, administrative and clerical, and support staff. Although the items cover both job and home related issues the occupational focus predominates. The subscales used in the present study are:

- (i) Factors intrinsic to the job - These nine items address issues that are fundamental to the work role including the amount and variety of tasks.
- (ii) The managerial role - This relates to individual's perceptions of the expectations of others in relation to managerial behaviours in eleven items.
- (iii) Relationships with other people - This covers aspects of the pressures resulting from a high degree of contact with other people. There are ten items.
- (iv) Career and achievement - This nine item subscale concerns issues of career advancement which is related to personal success and is deemed to have a direct effect on organisational success.

Items are rated on a six point scale from 'very definitely is not a source' to 'very definitely is a source'. The lower the score the less reported pressure from stressors.

The Sources of Pressure in Your Job Scale was not factor analysed in the original management guide (Cooper *et al.*, 1988) as the ratio of participants to the number of items was not sufficiently large to permit multivariate statistics. The subscale intercorrelations are shown in Table 4.10.

Table 4.10: 'Sources of pressure in your job' subscale intercorrelations

	1.	2.	3.	4.
1. Factors intrinsic to the job	*			
2. Managerial role	.77	*		
3. Relationships with other people	.68	.78	*	
4. Career & achievement	.75	.64	.77	*

Cooper *et al.* (1988) observed that there were "complex interrelationships" between the subscales of the Sources of Pressure in Your Job Scale and the high degree of correlations were to be expected. The split-half reliability coefficients for the subscales ranged from a low of .36 to a high of .77 which were significant at least at the 0.01 level. Cronbach's alpha in the present study was .92 for the total score, .71 for factors intrinsic to the job, .79 for the managerial role, .77 for relationships with others, and .80 for career and achievement.

4.3.2.6.6 Others work demands

This was based on the Consultants Work Demands measure of Agius *et al.* (1996) and was administered to the Management and Support staff in the present study. This eight item measure, which covered aspects of administrative/technical, clinical and managerial demands, was rated on a four-point scale from 'none' to 'a great deal' in

terms of the amount of time taken up with each. Cronbach's alpha for the total score was .55, for the administrative/technical subscale it was .58, for the clinical subscale it was .68 and for the managerial subscale it was .33.

4.3.3 Procedure

4.3.3.1 Pre-study Pilot

Approximately 3 months prior to the commencement of the current study, a small scale pilot study was conducted to assess a range of issues relating to the draft questionnaire. In the main these were as follows:

- a) Intelligibility and relevance of individual questions
- b) Coverage of main aspects of the topic
- c) Completion time
- d) Layout of draft questionnaire

The draft questionnaire was administered to 4 individuals (1 male and 3 females) in the following occupational groupings: administrative/clerical, managerial, profession allied to medicine, and nursing. A larger pilot sample would have been preferable but time constraints did not permit this. Given the lack of anonymity to the researcher inherent in a pilot study where numbers are small and detailed feedback is specifically requested, no analysis of individual responses was conducted. A number of changes were undertaken as a direct result of the outcome of the pilot study namely:

- a) Intelligibility and relevance of individual questions: The majority of the questions were considered intelligible and relevant. One question regarding age of leaving full-time education was removed as it was considered redundant given that educational

level was asked. In the non-occupational section two potential sources of stress were combined into one, i.e. leisure and social pursuits. The descriptive anchor points of the coping scale caused some confusion and so only the two extreme descriptive anchors were retained. The wording of the items in the role conflict scale were also not clear to respondents and so these were re-worded to improve intelligibility.

b) Coverage of main aspects of the topic: One of the respondents queried whether ethnic origin should be included in the demographics section. After discussion and recourse to the literature this was not considered a useful construct to include. None of the other respondents identified any further areas for inclusion.

c) Completion time: The time taken to complete the draft questionnaire ranged from 20 to 35 minutes. The respondents in the pilot all felt that this was an acceptable completion time as they found the questions interesting and relevant.

d) Layout of draft questionnaire: There were a few comments on the layout of the questionnaire such as spacing between response choices and these were amended. There were no other substantive comments on the questionnaire layout.

The proposal and questionnaire were then submitted to the regional NHS and University of Stirling, Department of Psychology, ethics committees. After brief consideration by the Regional NHS committee it was felt that their approval was not required as there were no invasive procedures involved. The study did however have approval and support from senior Trust management and staff side representatives as previously described. Approval was granted by the University of Stirling.

4.3.4 The present study

The present study involved a representative sample of two thirds of a Scottish health service Trusts employees extracted from employee records provided by the personnel department. The commencement of the study was preceded by an article in the Trust staff quarterly magazine outlining the purpose of the research and advising staff to expect the questionnaire. In order to enhance compliance and minimise 'group' responding the 14-15 page (depending on the occupational group) questionnaire was sent to the home address of employees, during June 1997. The mailshot was conducted in three phases: Phase 1 - Nurses; Phase 2 - Medics and professions allied to medicine; Phase 3 - Management and support staff. In addition to the self-report questionnaire participants received an introductory letter outlining the purpose of the research and emphasising its anonymous, voluntary and confidential nature (see Appendix I). The questionnaire was accompanied by a pre-paid addressed envelope for return to the Department of Psychology, University of Stirling. Participants were asked to return the questionnaire 7-10 days after receipt and a reminder letter was sent to all individuals 2 weeks after the due date for the initial postal return (see Appendix I).

A significant number of questionnaires ($n = 202$) were returned as a result of incorrect addresses held in Personnel records. Therefore a further mailshot, with updated addresses, of the self-report questionnaire to this subsample of the participants was conducted during September 1997.

4.4 Detailed research questions

Explicit research questions are addressed in chapters 5 to 8 as follows:

Chapter 5:

- a. How do nurses compare in relation to levels of emotional exhaustion, depersonalisation and personal accomplishment with normative data ?
- b. How does burnout vary by personal and job demographics ?
- c. What is the relationship between emotional exhaustion, depersonalisation and personal accomplishment and stressor, mediator/moderator and strain variables ?
- d. What factors predict emotional exhaustion, depersonalisation and personal accomplishment in nurses ?

Chapter 6:

- a. How do Medics and Professions Allied to Medicine differ with respect to reported stressor levels on the SDSI ?
- b. How does occupational stress vary by personal and job demographics ?
- c. What is the pattern of reported stressors ?
- d. What is the relationship between the SDSI and the stressor, mediator/moderator and strain variables ?
- e. What factors predict scores on the SDSI in Medics and Professions Allied to Medicine ?

Chapter 7:

- a. How do Management and Support staff compare with normative data on job satisfaction ?
- b. How do management, administrative/clerical and ancillary/trade staff differ with respect to job satisfaction ?

- c. How does job satisfaction vary by personal and job demographics ?
- d. What is the relationship between job satisfaction and stressors, mediators/moderators and strains ?
- e. What factors predict job satisfaction in management and support staff ?

Chapter 8:

- a. How do Nurses, Medics and P.A.M.'s compare with normative data on social support ?
- b. How does social support vary by personal and job demographics ?
- c. What is the relationship between social support and role conflict, role ambiguity, job future ambiguity, job satisfaction, emotional exhaustion and psychological distress ?
- d. Does social support moderate the relationship between stressors and strains?

4.5 Statistical analysis

On receipt of the questionnaire at the University of Stirling participants responses were coded and the data entered onto an SPSS database. Analysis of the data was conducted using a range of statistical procedures via the SPSS statistical package (version 10.0 for Windows, 1999, SPSS Inc., Chicago). A range of analytical techniques were selectively applied to the data as follows:

- a. Exploratory data analysis was undertaken via descriptive frequency data. This was generated for each variable to determine the overall response pattern and to check for any obvious anomalies. Using boxplots, a number of extreme outliers were identified in four of the measures namely non-occupational concerns, negative affectivity, sick leave (high) and coping (low). As these were considered to be true values, either reflective of the nature of the underlying constructs in the population

under investigation or of the measure employed, they were retained in the subsequent analyses.

- b. For the small amount of missing data that existed, where appropriate, the variable mean value was inputted thereby minimising the impact on the overall mean.
- c. Where frequency plots indicated a non-normal distribution, logarithmic transformations were computed. These did not however affect the results and so were not used in the final analyses.
- d. Nominal (categorical) data was examined using Chi square tests.
- e. Ordinal (ranked or ordered categories) data were examined either using Chi square tests or t-tests where the ordinal data could be appropriately treated as interval. Parametric t-tests are said to be robust to violations to their assumptions (Howell, 1997) and are in some cases preferred for ordinal data where non-parametric tests would result in a significant loss of power.
- f. Interval data were examined using two tailed independent t-tests or analysis of variance (ANOVA), with post hoc Scheffé, for differences between means.
- g. Pearson's r (parametric) correlation coefficients were used to determine any statistical associations between variables.
- h. The predictive utility of independent variables was assessed using hierarchical regression analysis. The value for adjusted R^2 (the corrected estimate of the proportion of the variance of the dependent variable accounted for by regression) was reported. The values for β represented the change in the dependent variable (expressed in standard deviation units) that would be produced by a positive increment of one standard deviation in the explanatory variable. Regression ANOVA was used to test whether there really was a linear relationship between the variables and the pattern of the scatterplots of the standardised residuals

against the standardised predicted values were used to confirm that the assumptions of linearity and homogeneity of variance had been met.

CHAPTER 5:

Burnout in Psychiatric Nursing

5.1 **Abstract**

Burnout in nursing is of both individual and organisational concern with ramifications for well-being, job performance, absenteeism and turnover. Burnout is rarely assessed as part of a comprehensive model of occupational stress, a short-coming which this study attempts to redress.

Of a randomly selected sample of 1,045 psychiatric nurses from one Scottish Trust, 510 completed a questionnaire based on a psychological model of occupational stress which included the Maslach Burnout Inventory as the dependent variable.

The respondents reported average, low and average levels of emotional exhaustion, depersonalisation and personal accomplishment respectively. The study sample had significantly lower scores on emotional exhaustion and depersonalisation than normative data but also significantly lower levels of personal accomplishment than a normative group of physicians and nurses. Only 2.0% of the study sample could be categorised as having high burnout overall (i.e. high emotional exhaustion, high depersonalisation, low personal accomplishment) and they differed significantly from the rest only in terms of males being over-represented. Hierarchical regression analysis revealed that selected explanatory variables accounted for 41.9% of emotional exhaustion, 16.4% of depersonalisation and 25.6% of personal accomplishment in the study sample.

Implications of the findings, in terms of a comprehensive approach to intervention aimed at minimising the risk of burnout in psychiatric nurses, are discussed. Such an approach will involve interventions at the organisational and individual level.

5.2 Introduction and literature review

A detailed review of the literature in relation to burnout has been undertaken in Chapter 3 and will be summarised here.

Burnout is a phenomenon said to particularly occur in occupations where a significant proportion of time is spent in close involvement with other people (Pines & Maslach, 1978; Maslach & Jackson, 1981a, 1982; Muldary, 1983). Burnout is characterised by a combination of feelings of being emotionally drained (emotional exhaustion), the development of negative attitudes and feelings towards the recipients of care (depersonalisation) and a growing devaluation of self-competence and overall achievement in the job (reduced personal accomplishment) (Maslach & Jackson, 1981a). It has been postulated that burnout is correlated with a range of self-reported psychological and physical strain indicators and it has been implicated in reductions in aspects of performance and productivity.

The most widely employed measure of burnout is the Maslach Burnout Inventory (MBI) which has been shown to have both high reliability and validity (Maslach & Jackson, 1981a; Corcoran, 1995) and a replicable three-factor structure in most samples (Green & Walkey, 1988; Green, Walkey & Taylor, 1991; Schaufeli & Van Dierendonck, 1993).

Duquette *et al.* (1994) reviewed existing empirical knowledge regarding factors related to burnout in nurses. The authors stated that the best correlates for burnout in nurses were role ambiguity, workload, age, hardiness, active coping and social support. Duquette *et al.* (1994) concluded by recommending that future research in

this area include use of a multivariate design, use of the Nursing Stress Scale (Gray-Toft & Anderson, 1981), measures of work relationships and coping, and an intervention oriented design.

The existing body of empirical research focusing on burnout in nursing suffers from a number of methodological inadequacies as outlined in Chapter 3. Briefly, studies often only report levels of burnout in the study sample; and/or compare the study sample with normative groups; relate burnout to only one other correlate; have very small sample sizes often with no indication of the response rate or a very low response rate; include nurses as part of a larger mixed sample; or draw the nurses from a number of varied sites. These inadequacies limit the generalisability of any conclusions, place doubt on the representativeness of the sample, and introduce other confounding factors.

Burnout is only one of a range of possible responses to excessive workplace stressors (Muldary, 1983) but a range of work and/or non-work pressures seem to be a necessary precursor to burnout. These include work schedules, work overload, understaffing, lack of autonomy and power, deficient positive reinforcement, management issues, interpersonal relationships, ineffective social support systems, life events, maladaptive coping strategies, and so on (Muldary, 1983; Cox, 1993).

Much of the nursing and burnout research stems from outwith the United Kingdom (UK) and, in particular, there exists a dearth of studies using samples derived from a

Scottish cohort. In addition, studies of psychiatric nurses¹ tend to be rarer (Sutherland & Cooper, 1990b) than studies of other forms of nursing.

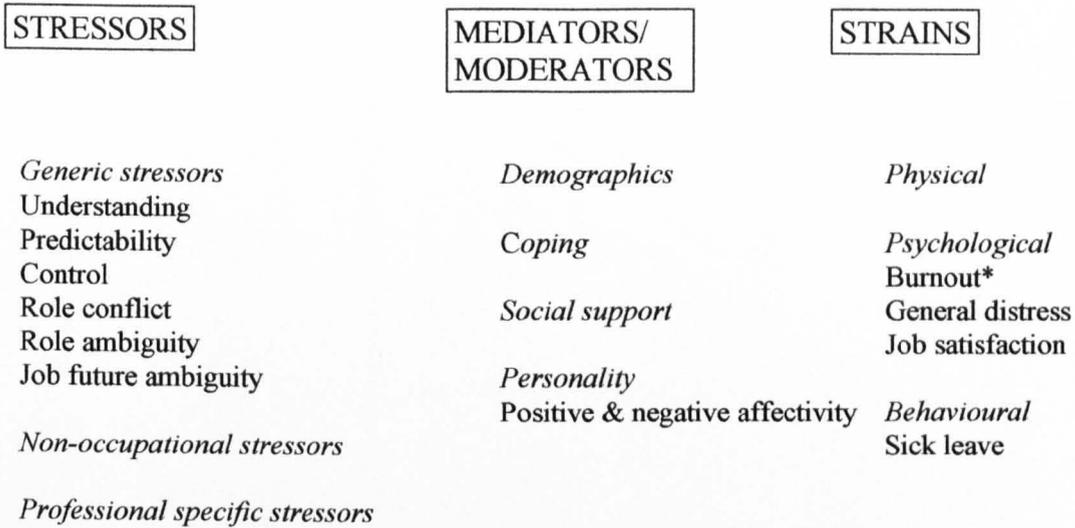
The present study therefore aimed to investigate a relatively under-researched group, namely psychiatric nurses, who may be more prone to experiencing burnout than other nursing groups due to the fact that, as well as being exposed to many of the stressors common to general nursing, they additionally have to deal long-term with a disturbed patient population. Furthermore, the closure of many institutions across the UK has led to an atmosphere of change and insecurity (Sutherland & Cooper, 1990b).

5.3 The study rationale

Since very few empirical studies in the area of burnout in nursing have adopted a theoretical perspective, the present study employed a psychological model (see Figure 5.1) whereby burnout is seen as a strain consequence, mediated by individual characteristics, of external stressors placed upon an individual (Matteson, 1987). The model used in the present study could be said to combine both the ‘interactional approach’, which measures the structural features of the individuals interaction with the work environment, and the ‘transactional approach’ in that moderating mechanisms such as personality and coping are assessed (Cox, 1993). A range of stressors, moderators and strains were assessed and a multivariate analysis was undertaken. In so doing, the present study aimed to rectify some of the methodological inadequacies of previous studies by utilising a sound and comprehensive theoretical perspective in a hitherto relatively under-researched group of psychiatric nurses.

¹ This term is used throughout for brevity to denote registered, enrolled and other (auxiliaries, healthcare assistants) nurses working in a range of psychiatric settings.

Figure 5.1: Psychological model used in the present study



*Burnout, in the current model, being the main dependent variable.

5.4 Method

5.4.1 Procedure

The study sample was drawn from nurses employed in a Scottish National Health Service (NHS) Trust which provided both acute and continuing care psychiatric services in a range of hospital and community bases. A questionnaire was sent to the home addresses of nursing staff with assurances regarding the anonymous, voluntary and confidential nature of the responses. Participants returned their completed questionnaire to the researchers in a pre-paid envelope. A standard reminder letter was sent to the entire study sample two weeks after the initial mail shot.

5.4.2 Participants

The selection methodology is outlined in detail in section 4.3.1 of Chapter 4. Nurses were selected from all parts of the Trust using a stratified random sampling procedure. Of the original sample size of 1,045 (i.e. 69.3% of the total nursing population at the

time of the study), 510 participated giving a response rate of 48.8%. A small amount of missing data exists for some of the variables and therefore the sample size on a few occasions may be less than 510.

5.4.3 Measures

The following measures were selected on the basis of the existing literature to cover the areas listed in Figure 5.1, i.e. stressors, mediators/moderators, and strains. The measures are described in greater detail in Chapter 4.

i) **Demographic Information**: Personal details were obtained on gender, age, marital status, academic level reached, partner's working status and number of children living at home. Job-related information was recorded on grade, base, length of time professionally qualified, full-time or part-time working, type of shift system worked, length in current post and length employed by the organisation in total.

ii) **Stressors**: A range of stressors which could be present in any form of work or in non-working life were assessed in addition to nursing-specific stressors.

a) *Understanding, predictability and control* of job-related events was assessed using the 12-item Understanding, Predictability and Control scale devised by Tetrick and LaRocco (1987).

b) *Role conflict* was assessed using the three-item Role Conflict measure of Caplan *et al.* (1980) with the items used being modified for the purposes of this study.

c) *Role ambiguity* was assessed using the four-item Role Ambiguity measure designed by Caplan *et al.* (1980).

d) *Job future ambiguity* was measured using the four-item Job Future Ambiguity questionnaire designed by Caplan *et al.* (1980).

e) *Non-occupational stressors* were assessed using a purpose-designed 5-item measure designed to tap the major life areas of housing, finances, spouse/partner relationship, child care, and leisure/social interests.

f) Occupational stress was assessed using the 34-item *Nursing Stress Scale* (Gray-Toft & Anderson, 1981).

iii) Mediators/Moderators:

a) Coping strategies were assessed using the '*How you cope with stress you experience*' 28-item measure from the Occupational Stress Indicator (Cooper *et al.*, 1988).

b) Social support was assessed using the House & Wells (1978) 13-item *Social Support measure*.

c) Positive and negativity affectivity was assessed using the 20-item *Positive and Negative Affect Schedule* (PANAS) (Watson *et al.*, 1988).

iv) Strains:

a) Psychosomatic and physiological stress symptoms were assessed using the 17-item *Psysom* (Burton *et al.*, 1996).

b) Burnout was assessed using the 22-item *Maslach Burnout Inventory* (MBI - Maslach & Jackson, 1981b, 1993).

c) Psychological strain was assessed using the 12-item *General Health Questionnaire* (GHQ-12 - Goldberg, 1992).

d) *Job satisfaction* was assessed using the Warr, Cook and Wall (1979) sixteen item measure.

e) Participants were asked to record the total number of days *sick leave* they had had in the six months prior to completion of the questionnaire.

5.5 Analysis

Analysis of the data was conducted using a range of statistical procedures. Differences between sample means and normative data were examined using t tests. Differences in levels of emotional exhaustion, depersonalisation and personal accomplishment between the various job and personal demographics were examined using t tests or analyses of variance (ANOVA) as appropriate. Chi square and analysis of variance were used to assess differences between high scorers and the rest of the study sample. The strength and direction of relationships between variables were determined using Pearson's correlation coefficients. Hierarchical regression analyses were carried out to determine the ability of demographics, stressors, mediators/moderators and strains to predict emotional exhaustion, depersonalisation and personal accomplishment.

5.6 Results

5.6.1 Demographic characteristics of the study sample

The personal and job demographics of the sample are outlined in Table 5.1. The mean age of the sample was approximately 40 years with a preponderance of females (86.9%). The majority of nurses in the sample were either married (66.3%) or cohabiting (12.0%) with partners who were working full-time (69.4%). Almost one third of the nurses had no children living at home (32.9%). Of those who had children, the commonest numbers were one (23.7%) or two (28.8%). There was a spread of academic achievement amongst the group with 28.2% having qualifications to the O grade/GCSE level and 21.6% to the A level/Higher/SYS level. On average the nurses in the study had been qualified for 14.9 years, had been in the employ of the organisation for 13.4 years and had been in their current post for 6.8 years. The most frequently occurring nursing grade was G (21.4%), followed by E (19.8%) and D

Table 5.1: Personal and job demographics of psychiatric nurses in study sample (N=510)

	N (%)		N(%)
Gender:		Job grade:	
Male	64 (12.5)	A	86 (16.9)
Female	443 (86.9)	B	24 (4.7)
		C	16 (3.1)
Marital Status:		D	98 (19.2)
Single	45 (8.8)	E	101 (19.8)
Cohabiting	61 (12.0)	F	28 (5.5)
Married	338 (66.3)	G	109 (21.4)
Separated	19 (3.7)	H	16 (3.1)
Divorced	33 (6.5)	I	6 (1.2)
Widowed	10 (2.0)		
Academic status:		Job base:	
No formal qualifications	86 (16.9)	Community	134 (26.3)
O grade/GCSE	144 (28.2)	Hospital	323 (63.3)
A level/Higher/SYS	110 (21.6)	Hospital + Community	1 (0.2)
HND/HNC	59 (11.6)		
Degree	70 (13.7)	Working pattern:	
Higher degree	23 (4.5)	Full-time	340 (66.7)
		Part-time	162 (31.8)
Partner's working status:		Shift worker:	
Working full-time	354 (69.4)	Yes	312 (61.2)
Working part-time	23 (4.5)	No	192 (37.6)
Unemployed	11 (2.2)		
Unable to work	13 (2.5)	Shift type:	
Retired	5 (1.0)	Flexible	48 (9.4)
Not applicable	97 (19.0)	Regular	76 (14.9)
		Irregular	185 (36.3)
		Not applicable	192 (37.6)
Children living at home:			
0	168 (32.9)		
1	121 (23.7)		
2	147 (28.8)		
3	30 (5.9)		
4	8 (1.6)		
5	1 (0.2)		
	Mean(SD)	Range	
Age (years)	40.1(9.2)	20-64	
Length qualified (years)	14.9(9.1)	0.3-38	
Length employed by organisation (years)	13.4 (8.2)	0.2-35	
Length in post (years)	6.8 (6.8)	0.1-28	

(19.2%). The majority of nurses were based in hospitals (63.3%) rather than in the community (26.3%). Most worked full-time (66.7%) with an irregular shift pattern being relatively common (36.3%).

5.6.2 Levels of burnout in the study sample

Overall, the study sample obtained mean scores for emotional exhaustion (Mean=18.8, SD 10.6), depersonalisation (Mean=4.9, SD 4.6) and personal accomplishment (Mean=34.2, SD 7.9) on the Maslach Burnout Inventory (MBI) that fell into the average, low and average categories respectively (see Table 5.2). As shown in Table 5.2, when compared with norms from the MBI manual for a) an Overall sample (comprising teachers, social service workers, medical workers, mental health workers and a range of other employees) and b) those of a Medical group (physicians and nurses), the psychiatric nurses of the study sample had significantly lower scores on emotional exhaustion and depersonalisation. They did not differ significantly from Overall norms on personal accomplishment but they did report significantly lower levels than the Medical group.

Table 5.2: Mean scores (SD) and category levels on the Maslach Burnout Inventory subscales for psychiatric nurses in study sample (N=510) in comparison with norms.

MBI	Study mean (SD)	MBI manual categories	a)Overall norms N=11,067 b) Medical norms N=1,104	Differences between study sample and norms t
Emotional Exhaustion	18.8 (10.6)	High ≥27 Av. 17-26 Low ≤16	a) 21.0 (10.8) b) 22.2 (9.5)	a) 4.50** b) 2.87*
Depersonalisation	4.9 (4.6)	High ≥13 Av. 7-12 Low ≤6	a) 8.7 (5.9) b) 7.1 (5.2)	a) 4.98** b) 8.21**
Personal Accomplishment	34.2 (7.9)	High ≥39 Av. 32-38 Low ≤31	a) 34.6 (7.1) b) 36.5 (7.3)	a) 1.24 b) 5.75**

Key: *p<0.01, **p<0.001. Note: a) and b) from Maslach & Jackson (1993).

High levels of emotional exhaustion (i.e. ≥ 27) were reported by 21.6% of the present sample. The group reporting high emotional exhaustion did not differ significantly from the rest of the study sample as regards gender, age, marital status, academic status, partner's working status, number of children living at home, job grade, job base (hospital versus community), length qualified, length employed by the organisation, length in post, being a shift worker, or the type of shift pattern worked. However, those scoring as high on emotional exhaustion in the present sample did differ significantly from the remainder ($\chi^2(df 1) = 19.1, p < 0.01$) in relation to working pattern in that there were proportionately more full-time workers and fewer part-time workers amongst those scoring greater than or equal to 27 on emotional exhaustion.

High levels of depersonalisation (i.e. ≥ 13) were reported by 7.1% of the present sample. High scorers on depersonalisation differed significantly ($\chi^2(df 1) = 18.0, p < 0.01$) from the rest of the sample only in terms of gender in that there were proportionately more males and fewer females. High scorers on depersonalisation did not differ from the rest of the sample in terms of age, marital status, academic status, partner's working status, number of children living at home, job grade, job base (hospital versus community), length qualified, length employed by the organisation, length in post, working pattern (i.e. full-time or part-time), being a shift worker, or the type of shift pattern worked.

Almost one third of the overall sample (33.1%) reported low levels of personal accomplishment (i.e. ≤ 31). This group did not differ significantly from the rest of the study sample as regards gender, age, marital status, partner's working status, number

of children living at home, job base (hospital versus community), length qualified, length employed by the organisation, being a shift worker, or the type of shift pattern worked. However, they did differ significantly (χ^2 (df 5) = 21.7, $p < 0.01$) in relation to academic status in that there were proportionately more individuals with no qualifications, with O grades or their equivalent and with higher degrees and fewer with A levels or their equivalent, HND/HNC's and degrees. Also, the breakdown of job grades differed significantly (χ^2 (df 8) = 63.2, $p < 0.01$) in the low personal accomplishment scorers in that there were proportionately more A, C, and D grades and fewer B, E, F, G, H and I grades. There was also a significant (χ^2 (df 1) = 17.6, $p < 0.01$) difference in working pattern for this group with more part-time workers and fewer full-time workers. Finally, low personal accomplishment scorers had been in their current post for significantly (t (df 492) = 4.0, $p < 0.01$) longer than the rest of the study sample.

Only 2.0% of the sample (i.e. 10 individuals) reported high burnout overall (i.e. high emotional exhaustion, high depersonalisation and low personal accomplishment). Because of the very small numbers involved any statistical analysis should be treated with caution. However, the group reporting high burnout differed significantly (χ^2 (df 1) = 13.6, $p < 0.01$) from the rest of the study sample only in terms of gender, males being over-represented. They did not differ significantly on any of the other personal or job demographics.

Emotional exhaustion and depersonalisation were positively correlated ($r = 0.5$, $p < 0.001$) while depersonalisation and personal accomplishment were negatively

correlated ($r = -0.2$, $p < 0.01$), this being consistent with the intercorrelations between these constructs reported in the MBI manual (Maslach & Jackson, 1993). However, unlike the data presented in the MBI manual, there was no significant correlation between emotional exhaustion and personal accomplishment in the present sample.

With regards to emotional exhaustion, those nurses who had no formal qualifications scored significantly lower ($F(5,481) = 4.8$, $p < 0.001$) than those who had a higher degree ($M = 15.9$ and 25.6 respectively); grade B nurses scored significantly lower ($F(8,469) = 4.8$, $p < 0.001$) than grade G nurses ($M = 11.8$ and 21.3 respectively); and full-time workers scored significantly lower ($t = 5.2$, $df = 495$, $p < 0.001$) than part-time workers ($M = 20.6$ and 15.4 respectively). The nurses did not differ significantly on emotional exhaustion on the basis of gender, marital status, partner's working status, base (i.e. hospital versus community), whether they worked a shift system nor the type of shift system they worked.

As regards depersonalisation, male nurses scored significantly more highly ($t = 4.9$, $df = 500$, $p < 0.001$) than female nurses ($M = 7.5$ and 4.6 respectively); those qualified to O grade/GCSE level differed significantly ($F(5,481) = 5.0$, $p < 0.001$) from both A level/Higher/SYS and HND/HNC qualified nurses ($M = 3.9$, 5.8 , 6.6); and full-time workers scored significantly more highly ($t = 3.8$, $df = 495$, $p < 0.001$) than part-time workers ($M = 5.5$ and 3.8 respectively). Partner's working status and type of shift system worked did not seem to have an effect on reported levels of depersonalisation.

Levels of personal accomplishment differed between the academic gradings with those with no formal qualifications reporting lower levels than those with degrees

($M=32.0$ and 36.6 respectively; $F(5,480) = 3.5, p<0.01$); grade A nurses reported lower levels than both grade E and grade G nurses ($M=30.4, 35.4, 36.2$; $F(8,468) = 4.9, p<0.001$); community based nurses reported higher levels than hospital based nurses ($M=36.1$ and 33.7 respectively; $t = 3.03, df = 451, p<0.01$); full-time workers reported higher levels than part-time workers ($M=35.0$ and 32.6 respectively; $t = 3.3, df = 494, p<0.01$); and shift workers reported lower levels than non-shift workers ($M=33.4$ and 35.8 respectively; $t = 3.4, df = 496, p<0.01$). Neither gender, marital status, type of shift system worked nor partner's working status had an effect on reported levels of personal accomplishment.

The relationship between the three MBI subscales and the relevant personal and job demographics are displayed in Table 5.3. There were significant negative correlations between depersonalisation and age ($r = -.2, p<0.001$) and depersonalisation and length qualified ($r = -.2, p<0.001$). It would appear that higher levels of depersonalisation are associated with younger, more recently qualified nurses. Personal accomplishment was negatively correlated with length in post ($r = -.2, p< 0.001$) indicating that the longer that nurses are in a post, the less they feel they are achieving in the job.

Table 5.3: Pearson's correlations showing the relationship between the subscales of the Maslach Burnout Inventory and personal and job demographics for psychiatric nurses in study sample (N=510).

MBI	EE	DP	PA	1	2	3	4	5
EE		.5**	-.02	-.1	-.03	-.1	-.03	.04
DP			-.2*	-.2**	-.04	-.2**	-.1	-.1
PA				-.03	.01	-.1	-.2**	-.1
1					-.1*	.7**	.4**	.5**
2						.04	-.1	-.04
3							.5**	.7**
4								.6**
5								

Key: EE - Emotional Exhaustion, DP - Depersonalisation, PA - Personal Accomplishment, 1 - Age, 2 - Number children living at home, 3 - Length qualified, 4 - Length in post, 5 - Length employed by the organisation; * = $p < 0.01$, ** = $p < 0.001$

Table 5.4 displays the correlations between the explanatory variables and the three aspects of burnout. Emotional exhaustion correlated significantly ($p < 0.001$) with psysom total ($r = .7$), GHQ total score ($r = .5$), negative affectivity ($r = .5$), total job satisfaction ($r = -.5$), total nursing stress scale score ($r = .4$), role conflict ($r = .3$), positive affectivity ($r = -.3$), total social support ($r = -.3$), number of non-occupational stressors ($r = .3$), predictability ($r = -.3$), role ambiguity ($r = -.3$), and job future ambiguity ($r = -.3$). Therefore the higher the reported emotional exhaustion the greater the physical and psychological symptomatology, the greater the predisposition to experience negative mood states, the greater the total amount of work-related stressors, the greater the conflict in job role and the greater the number of non-occupational stressors. Conversely, lower emotional exhaustion is associated with greater total job satisfaction, a greater predisposition to experience positive mood states, greater availability of social support, more predictability of job-related events, less uncertainty in job role and less insecurity in the future of one's job.

Depersonalisation followed the same pattern in terms of significance ($p < 0.001$) and direction of the correlations although not necessarily in strength: negative affectivity ($r = .3$), total job satisfaction ($r = -.3$), psysom total ($r = .3$), total nursing stress scale score ($r = .3$), GHQ total score ($r = .2$), predictability ($r = -.2$), number of non-occupational stressors ($r = .2$), role conflict ($r = .2$), positive affectivity ($r = -.2$), role ambiguity ($r = -.2$), total social support ($r = -.2$), and job future ambiguity ($r = -.2$).

The pattern for personal accomplishment however was somewhat different: positive affectivity ($r = .3$), control ($r = .3$), understanding ($r = .2$), coping ($r = .2$), predictability ($r = -.2$), role ambiguity ($r = .2$), total job satisfaction ($r = .2$), job future

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1		.5**																	
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Key: 1 - Emotional Exhaustion, 2 - Depersonalisation, 3 - Personal Accomplishment, 4 - Understanding, 5 - Predictability, 6 - Control, 7 - Role Conflict, 8 - Role Ambiguity, 9 - Job Future Ambiguity, 10 - Total number non-occupational stressors, 11 - Nursing Stress Scale, 12 - Coping styles, 13 - Social Support, 14, Positive Affectivity, 15 - Negative Affectivity, 16 - Psysom, 17 - GHQ, 18 - Job satisfaction, 19 - Sick leave; * p<0.01, ** p<0.001.

Table 5.4: Pearson's correlations showing the relationship between the subscales of the Maslach Burnout Inventory and the stressor, mediating/moderating, and strain variables for psychiatric nurses in study sample (N=510).

ambiguity ($r = .2$), and social support ($r = .2$). All these correlations were at the $p < 0.001$ level. Higher levels of personal accomplishment therefore are associated with a greater predisposition to experience positive mood states, greater job-related control and understanding, greater use of coping strategies, less uncertainty in job role, greater total job satisfaction, less uncertainty about the future of one's job, and greater availability of social support. Interestingly less predictability in job role is associated with higher levels of personal accomplishment.

5.6.3 Predicting burnout

Hierarchical regression analysis was used to investigate the relative contribution of demographic variables, strains, nursing and generic stressors, coping, social support and positive/negative affectivity to emotional exhaustion, depersonalisation and personal accomplishment. Separate hierarchical regression analyses were undertaken for the three aspects of burnout and are shown in Tables 5.5 to 5.7. As *PsySom* correlated highly with emotional exhaustion ($r = .7$) it was not included in the regression analysis for this dependent variable. The value for adjusted R^2 (the corrected estimate of the proportion of the variance of the dependent variable accounted for by regression) is reported in each instance. The values for β represent the change in the dependent variable (expressed in standard deviation units) that would be produced by a positive increment of one standard deviation in the explanatory variable. Regression ANOVA tests whether there really is a linear relationship between the variables and scatterplots of the standardised residuals against the standardised predicted values in each case showed no obvious pattern

thereby confirming that the assumptions of linearity and homogeneity of variance had been met.

Emotional Exhaustion: Table 5.5 indicates that 42% of emotional exhaustion in nurses was accounted for by the explanatory variables listed. Stressors accounted for 25% of the variance, with mediators/moderators adding another 12%. Strains predicted an additional 4% of the variance. Of the stressors, the nursing stress scale made the greatest contribution to emotional exhaustion ($\beta = 0.2$, $p < 0.001$). Negative affectivity was the mediator/moderator which made the greatest contribution to emotional exhaustion ($\beta = 0.3$, $p < 0.001$) and job satisfaction the strain indicator ($\beta = 0.2$, $p < 0.001$). Of all the explanatory variables entered only role ambiguity was not a significant predictor of emotional exhaustion. The regression ANOVA was significant ($F(11,456) = 31.6$, $p < 0.001$). Thus emotional exhaustion in psychiatric nurses was increased by role conflict, non-occupational concerns, nursing stressors, negative affectivity and psychological distress and was decreased by predictability of job-related events, certainty in relation to job security, social support, positive affectivity and job satisfaction.

<i>Table 5.5: Hierarchical regression analysis of Emotional Exhaustion.</i>			
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Step	β	Multiple R	Adjusted R ²
1. Stressors			
Predictability	-.2**	.5	.253
Role conflict	.2*		
Role ambiguity	-.1		
Job future ambiguity	-.1**		
Total number of non-occupational stressors	.1**		
Nursing Stress Scale	.2**		
		Overall F (6,461) = 27.4**	
2. Mediators/Moderators			
Social support	-.1*	.6	.376
Positive affectivity	-.2**		
Negative affectivity	.3**		
		Overall F (9,458) = 32.2**	
3. Strains			
GHQ	.2**	.7	.419
Job satisfaction	-.2**		
		Final F (11,456) = 31.6**	

Key: * $p < 0.01$, ** $p < 0.001$.

Depersonalisation: The value for adjusted R² in Table 5.6 indicated that 16% of depersonalisation in nurses was accounted for by the explanatory variables entered into the analysis. Demographics accounted for only 3% of the variance with stressors accounting for 11% of the variance. Mediators/moderators added another 3% and strains predicted an additional 0.3% of the variance. Of the stressors, predictability made the greatest contribution to depersonalisation ($\beta = 0.2$, $p < 0.001$). Negative affectivity was the mediator/moderator which made the greatest contribution to depersonalisation ($\beta = 0.2$, $p < 0.01$). The regression ANOVA was significant ($F(14,336) = 5.9$, $p < 0.001$). Thus depersonalisation in psychiatric nurses was increased by negative affectivity and reduced by predictability in job-related events.

Table 5.6: Hierarchical regression analysis of Depersonalisation.

Step	β	Multiple R	Adjusted R ²
1. Demographics			
Age	-.1	.2	.028
Length qualified	-.1		
		Overall F (2,348) = 6.1*	
2. Stressors			
Predictability	-.2**	.4	.135
Role conflict	.1		
Role ambiguity	-.02		
Job future ambiguity	-.1		
Total number of non-occupational stressors	.1		
Nursing Stress Scale	.1		
		Overall F (8,342) = 7.8**	
3. Mediators/Moderators			
Social support	.01	.4	.161
Positive affectivity	-.1		
Negative affectivity	.2*		
		Overall F (11,339) = 7.1**	
4. Strains			
Psyssom	.1	.4	.164
GHQ	-.1		
Job satisfaction	-.1		
		Final F (14,336) = 5.9**	

Key: * $p < 0.01$, ** $p < 0.001$.

Personal Accomplishment: In Table 5.7 the value for adjusted R² indicated that 26% of personal accomplishment in nurses was accounted for by the variables listed. Length in post accounted for only 3% of the variance with stressors accounting for 16% of the variance. Mediators/moderators added another 7%. Length in post made a significant contribution to personal accomplishment ($\beta = 0.2$, $p < 0.001$) and, of the stressors, control made the greatest contribution ($\beta = 0.2$, $p < 0.001$). Positive affectivity was the mediator/moderator which made the greatest contribution to personal accomplishment ($\beta = 0.3$, $p < 0.001$). The regression ANOVA was significant ($F(10,468) = 17.5$, $p < 0.001$). Thus feelings of personal accomplishment in psychiatric nurses were increased by control over job-related events and positive affectivity,

whilst being reduced by being in post longer, having high levels of job-related predictability and role ambiguity.

Table 5.7: Hierarchical regression analysis of Personal Accomplishment.

Step	β	Multiple R	Adjusted R ²
1. Demographics			
Length in post	-.2**	.2	.025
		Overall F (1,477) = 13.5**	
2. Stressors			
Understanding	.1	.4	.186
Predictability	-.2**		
Control	.2**		
Role ambiguity	.2**		
Job future ambiguity	.1		
		Overall F (6,472) = 19.2**	
3. Mediators/Moderators			
Coping	.1	.5	.257
Social support	.01		
Positive affectivity	.3**		
		Overall F (9,469) = 19.4**	
4. Strains			
Job satisfaction	-.02	.5	.256
		Final F (10,468) = 17.5**	

Key: * $p < 0.01$, ** $p < 0.001$.

5.7 Discussion

Using a psychological model of occupational stress this study aimed to assess the levels of emotional exhaustion, depersonalisation and reduced personal accomplishment, as measured by the Maslach Burnout Inventory, in a sample of nurses working in psychiatric settings. In addition, the study aimed to identify the correlates of burnout from a range of measures of generic stressors, occupation-specific stressors, non-occupational stressors, coping styles, social support, personality, and physical, psychological and behavioural strains. Combinations of significant correlates were then used to determine the predictors of emotional exhaustion, depersonalisation and personal accomplishment. In addition, the approach

taken was intended to be intervention-oriented in line with the relevant UK legislation (Health & Safety at Work etc. Act, 1974; Management of Health & Safety at Work Regulations, 1992 & 1999) in which employers are required to identify hazards to health in the workplace, to assess the risk associated with those hazards and to implement appropriate control strategies. Results indicated that burnout is multifactorially determined and it is likely therefore that any interventions aimed at reducing the risk of burnout in psychiatric nurses could only effectively address some of these determinants. The sample size was designed to be representative and to permit generalisability of findings, and all participants came from one employing Trust to minimise any confounding factors in this regard.

Results indicated that the nurses in the study sample reported average, low and average levels of emotional exhaustion, depersonalisation and personal accomplishment respectively as determined by the MBI manual (Maslach & Jackson, 1993). The study sample reported significantly lower levels of emotional exhaustion and depersonalisation than the normative groups used for comparison, but also significantly lower levels of personal accomplishment than the medical norms reported. This is partly in keeping with the results of Schaufeli (1999) who concluded that levels of emotional exhaustion in health care are relatively low, as are levels of depersonalisation, although physicians exhibit higher scores on depersonalisation than other occupational groups. In addition, Schaufeli (1999) reported that reduced personal accomplishment was least experienced in mental health care, in comparison to medicine, social services and teaching, although this tended to apply more to individuals who were more highly qualified and had more direct control over their

jobs. The 21.6% of the present sample who reported high levels of emotional exhaustion (i.e. ≥ 27) differed significantly from the rest only by virtue of having proportionately more full-time workers. Only 7.1% of the sample reported high levels of depersonalisation (i.e. ≥ 13) and males were significantly over-represented in this group. A greater percentage (33.1%) reported low levels of personal accomplishment (i.e. ≤ 31) and this group differed significantly from the wider sample in terms of academic status, job grade, working pattern and length in post. Only 2.0% could be categorised as having high burnout overall (i.e. high emotional exhaustion, high depersonalisation, low personal accomplishment) despite other authors claiming levels of up to 17% (Costantini *et al.*, 1997). The high burnout group differed significantly from the rest only in terms of males being over-represented despite the multiplicity of statistical comparisons undertaken and taking into account the relatively small proportion of males in the overall study sample. This would suggest that there is very little in terms of job and personal demographics that distinguishes those experiencing high burnout from those who are not.

In the present study, higher levels of depersonalisation were associated with younger, more recently qualified nurses. Burnout has been shown to be more common among younger employees (Beaver *et al.*, 1986; Randall & Scott, 1988; Duquette *et al.*, 1994; Schaufeli, 1999) perhaps because of the initial 'shock' of the job in reality, a lack of adaptation to or insecurity in working life, a perception of more role ambiguity, or the fact that those who remain longer term are those who did not burn out early on. In the present study, male nurses reported more depersonalisation than female nurses which is a commonly reported gender difference (Schaufeli, 1999). Nurses educated to a

higher academic level reported higher levels of emotional exhaustion and depersonalisation but also higher levels of personal accomplishment than those with no formal qualifications. Grade G nurses reported higher emotional exhaustion than B grade nurses whereas grade A nurses reported lower personal accomplishment than both grades E and G nurses. Part-time workers reported higher emotional exhaustion and lower personal accomplishment than full-time workers, but the reverse was true for depersonalisation. Hospital based nurses reported lower personal accomplishment than community nurses. Shift workers reported lower personal accomplishment than non-shift workers but there was no difference in the types of shift worked. Jamal & Baba (1997) also found that burnout was not related to type of shift, although McCranie *et al.* (1987) reported that rotating shift nurses had more burnout than nurses working straight shifts.

In addition to less predictability of job-related events and more job future insecurity, higher levels of emotional exhaustion and depersonalisation were associated with more conflict and more uncertainty in job role. Role conflict and role ambiguity have previously been found to be moderately to highly correlated with burnout (Turnipseed, 1994; Schaufeli, 1999). The nursing stress scale has been found to be positively correlated with burnout (McCranie *et al.*, 1987) and indeed in the present study higher levels of emotional exhaustion and depersonalisation were associated with greater reported nursing stressors. More non-occupational concerns were also associated with higher levels of emotional exhaustion and depersonalisation in the study sample highlighting the folly of attempting a clear distinction between home life and working life when assessing burnout. Higher emotional exhaustion and depersonalisation were

also associated with less available social support. A number of authors have reported a positive relationship between lack of social support and burnout, especially lack of support from supervisors (Turnipseed, 1994; Schaufeli, 1999), and from colleagues (Beaver *et al.*, 1986). Dara Ogus (1990) showed that the greater the availability of sources of social support and the greater the level of satisfaction with those sources, the lower the levels of burnout. Social support may, in some way, provide a protective effect against burnout (Duquette *et al.*, 1994) perhaps by giving nursing staff an opportunity to express their feelings, thereby minimising any sense of isolation and creating a forum for passing on coping strategies. This has ramifications for the nursing environment and, in particular, for more senior nursing staff who would be best placed to foster both informal and more formal support networks.

Personality factors have previously been shown to be associated with burnout, particularly neuroticism, which has been thought to act as a vulnerability factor that predisposes individuals to experience burnout (Schaufeli, 1999). In the present study higher levels of emotional exhaustion and depersonalisation were associated with higher negative affectivity and lower positive affectivity. Thus the individual who has a greater tendency to self-report stress and health complaints and less of a tendency to be socially and physically active, may be more vulnerable to emotional exhaustion and depersonalisation. Clearly, if one assumes personality to be a trait characteristic, little can be done to address such issues and personal characteristics such as these may provide 'risk' indicators to line managers. However, if one accepts that personality characteristics are state dependent and amenable to change, then intervention may be

appropriate in an effort to enhance positive affectivity perhaps through cognitive techniques.

Lower levels of personal accomplishment were associated with being in post longer, less understanding of job-related events, high levels of job-related predictability, less control over job-related events, more uncertainty in job role, more future job insecurity, less use of coping strategies, less social support, lower positive affectivity and less job satisfaction. A degree of worker autonomy has been linked with higher feelings of personal accomplishment (Turnipseed, 1994) and it has been reported that reduced personal accomplishment is particularly associated with an avoidant coping style (Schaufeli, 1999). Thus intervention to maximise feelings of personal accomplishment could be targeted at increasing job-related control, where practicable, and instructing staff in more adaptive coping styles.

Using hierarchical regression analysis eleven explanatory variables accounted for 41.9% of the variance in emotional exhaustion (see Table 5.5). Only role ambiguity failed to make a significant unique contribution to the variance in emotional exhaustion. Nurses reported higher emotional exhaustion when they experienced less predictability of job-related events, more role conflict, less job future security, more nursing stressors, more non-occupational concerns, less social support, greater negative affectivity, lower positive affectivity, more psychological distress and less job satisfaction. This has implications for intervention, for example, more feedback to staff as regards the short and long-term expectations of their job perhaps through

regular appraisal and objective setting, minimising conflicting tasks and providing advice and support as regards non-work issues.

A range of variables (as listed in Table 5.6) accounted for 16.4% of the variance in depersonalisation. Predictability of job-related events and negative affectivity were the only two of the fourteen variables entered that made a unique contribution to depersonalisation. Nurses reported more depersonalisation when they experienced less predictability of job-related events and greater negative affectivity. As indicated previously, personality may act as a 'risk' indicator for burnout and is potentially less likely to be amenable to significant change. However, minimising feelings of unpredictability could be partially addressed through, for example, feedback, objective setting and regular appraisal.

Ten variables accounted for 25.6% of the variance in personal accomplishment, five of which made a unique contribution. Nurses reported lower personal accomplishment when they were in post for a longer time and had experienced greater predictability of job-related events, less control over job-related events, more ambiguity in job role and lower positive affectivity. In terms of intervention, special attention should arguably be given to those who have been in post for longer, perhaps through increasing responsibility, allocating novel tasks or job rotation. It may be that for such individuals their jobs have become too predictable on a day to day basis, with little control and a lack of clarity in terms of their overall role.

The present study adopted a cross-sectional research design which allows a relationship between variables to be identified at one point in time only. Such an approach has obvious limitations. Longitudinal designs, although much more difficult to achieve, are crucial for furthering our understanding of the development of burnout over time. Reliance on self-report data always has its criticisms but there is an argument that, as stress is an experience based on the perception of a mismatch between demands and resources to meet those demands, subjective report has to be paramount. The present study sample consisted of nurses working in psychiatric settings and findings cannot be automatically generalised to nurses working in other settings with other client groups.

5.8 Conclusion

The results of the present study have a range of implications for the study sample in question and perhaps for the wider population of nurses working in psychiatric settings. In the course of selecting and training nurses more emphasis should perhaps be placed on the realities of the job in terms of the demands in today's National Health Service. One might argue that a core part of the nursing curriculum should be devoted to personal stress management and coping skills. It is also likely to be advantageous if nurses in the early stages of their careers were placed in more supportive sites (Beaver *et al.*, 1986). Where appropriate and operationally feasible, primary level, organisational interventions such as clarifying job roles through job descriptions and regular appraisals, and giving employees more control over shifts which allows staff to pursue an optimal approach to the job (Turnipseed, 1994) are likely to produce substantial benefits in terms of reducing the risk of burnout and

consequently positively influencing sickness absence and staff turnover. Secondary level, protective strategies such as enhancing social support networks, particularly amongst younger workers, both informally but also via line managers, will provide buffers against job stressors and again reduce the risk of burnout. Such an approach has ramifications for management training as the line manager will play a pivotal role in facilitating such networks.

Future research in the area of occupational stress is likely to be more relevant if it is more intervention-oriented. The time has come when stress is an identified hazard in the working environment alongside excessive noise levels and exposure to noxious substances (Health & Safety Commission, 1999). It is, and will increasingly become, the responsibility of employers to ensure that, wherever reasonably practicable, they remove or reduce stressors in the working environment and provide employees with training in protective mechanisms against inherent stressors. No longer will it be sufficient to provide treatment and rehabilitation for employees already displaying the strains in the absence of a comprehensive approach to prevention and protection.

CHAPTER 6:

**Occupational Stress in Medical staff and the Professions
Allied to Medicine**

6.1 **Abstract**

Occupational stress in medics has been a long-standing research area but much less is known about occupational stress in the Professions Allied to Medicine (P.A.M.'s).

The experience of occupational stress in medics and P.A.M.'s has been associated with reductions in performance levels, adverse impact on patient care, increased accidents and errors, and possible litigation against the employing organisation.

There have been numerous measuring tools used to assess job-related stressors in such professions but many have not been designed to tap the specific stressors found in these health professionals. In addition, very few studies have attempted to compare the two groups of medics and P.A.M.'s on a stressor-specific measure. The present study administered such a measure, an amended version of the Specialist Doctors Stress Inventory (SDSI), in the context of a interactional model of occupational stress, to 150 medics and P.A.M.'s from one Scottish NHS Trust specialising in mental health services. The respondents reported overall stress levels below the midpoint of the SDSI indicating relatively low levels on average. There was no statistically significant difference between medics and P.A.M.'s on the SDSI. Overall, those scoring greater than the group mean on the SDSI did not differ from the rest of the group in terms of a range of personal and job demographics. There was a statistically significant positive association between the number of hours worked in the week previous to completion of the questionnaire and both the 'clinical responsibility' and 'demands on time' subscales of the SDSI. Hierarchical regression analysis revealed that selected explanatory variables accounted for 44.2% of the variance in the SDSI. The personality construct of negative affectivity made the greatest contribution to the

total score on the SDSI indicating that personality has a major role in the experiencing and reporting of job stressors. Role conflict, i.e. competing demands in job activities, also contributed significantly. The combination therefore of personality characteristics and coping with the conflicting roles often inherent in the professions of medics and P.A.M.'s, particularly those of clinical and managerial responsibilities, appeared to have the most relevance to job-related stress.

The implications of these findings, in terms of a comprehensive approach to intervention, including selection for training and enhancing coping skills, aimed at reducing the levels and impact of stressors on medics and P.A.M.'s, are discussed.

6.2 Introduction and literature review

A detailed review of the literature in relation to stressors in medics and P.A.M.'s has been undertaken in Chapter 3 and will be summarised here.

Levels of psychological distress and other strain indicators, such as alcohol abuse, are said to be higher in medical staff than in the general population (Murray, 1976; Wall *et al.*, 1997; British Medical Association, 1998; Firth-Cozens, 1999) whereas much less research has been undertaken on the various Professions Allied to Medicine (P.A.M.'s). The experience of such strain can impact on patient care (Firth-Cozens & Greenhalgh, 1997) and lead to reductions in performance levels (Firth-Cozens, 1993), increased accidents and errors (Kirkcaldy *et al.*, 1997) and possible litigation against the organisation (Firth-Cozens, 1999).

Some of the range of reported stressors for GP's include having to take night calls, dealing with emergencies, conflicts with family life, clinical responsibility, job insecurity, isolation, and so on. Sutherland & Cooper (1993) found, using the OSI, that the main stressors for GP's were the demands of the job including patients' expectations, role stressors, and organisational structure and climate. Other studies looking at medics in health authorities or hospitals have found differing patterns of stressors such as competence concerns (Simpson & Grant, 1991); time demands (Deary *et al.*, 1996a); and organisational constraints (Deary *et al.*, 1996a).

It would appear that dentists and occupational therapists have been the most studied of the P.A.M.'s when it comes to occupational stress. Typical stressors identified for dentists include coping with difficult patients, having too much work, and administrative duties (Cooper, 1980). Occupational therapists (OT's) have been reported to have less job-related stress than other P.A.M.'s and mental health workers (Sweeney & Nichols, 1996) although Allan & Ledwith (1998) found that thirty-four percent of their sample of OT's reported high or very high levels of stress.

Few studies have set out to compare stressor levels in medics and P.A.M.'s and those that have compared the two professions have often done so in the context of a wider study of all occupational groupings in the NHS, for example, Rees & Cooper (1990). These authors found that doctors reported more pressure intrinsic to their job and from the home/work interface than professional/technical staff, while professional/technical staff reported more pressure than doctors from 'relationships with other

people'. Borrill *et al.* (1996) found that the mental health of doctors was worse than that of some the other major occupational groups found in the NHS.

Despite research on medics and P.A.M.'s having been conducted with American (Revicki & May, 1985; Wolfgang, 1988; Simpson & Grant, 1991), German (Kirkcaldy *et al.*, 1997) and other (Gilliland *et al.*, 1998) nationalities, it is difficult to generalise across cultures. Other researchers have focused on very narrow samples, for example, one medical speciality such as oncologists, radiologists, etc., (Ramirez *et al.*, 1995 & 1996) and it is difficult to generalise beyond the speciality in question. Fewer studies have been conducted using either medics or P.A.M.'s in Scotland, e.g. Alexander (1997), Agius *et al.* (1996), Deary *et al.* (1996b) and Swanson *et al.* (1996).

In summarising the above research it appears that considerable attention has been given to assessment of the various individual stressor or strain components among medics or, to a lesser extent, P.A.M.'s. However, no study to date has contrasted medics and P.A.M.'s in Scotland working in psychiatric services on a comparable occupation specific stressor measure. Furthermore, there is a relative dearth of literature that has investigated both medics and P.A.M.'s from an interactional perspective which takes account of the role of occupation specific and generic stressors in the context of a range of possible moderating/mediating factors resulting in the experience of physical, psychological and behavioural strain.

6.3 The study rationale

The present study therefore attempted to address the issue of job-related stressors in medics and P.A.M.'s in Scotland working in a range of hospital and community based psychiatric services. The measures used were based on an interactional model of occupational stress and a multivariate analysis was undertaken. In so doing, the present study attempted to address some of the inadequacies of previous studies in the area.

6.4 Method

6.4.1 Procedure

The study sample was drawn from medical staff and P.A.M.'s employed in a Scottish NHS Trust which provided both acute and continuing care psychiatric services in a range of hospital and community bases. A questionnaire was sent to the home addresses of medical and P.A.M.'s staff with assurances regarding the anonymous, voluntary and confidential nature of the responses. Participants returned their completed questionnaire to the researchers in a pre-paid envelope. A standard reminder letter was sent to the entire study sample two weeks after the initial mail shot.

6.4.2 Participants

The selection methodology is outlined in detail in section 4.3.1 of Chapter 4. Medical staff and P.A.M.'s were selected from all parts of the Trust using a stratified random sampling procedure. Of the original sample size of 276 (i.e. 68.3% of the total medical and P.A.M.'s population at the time of the study), 150 participated giving a

response rate of 54.3%. A small amount of missing data exists for some of the variables and therefore the sample size on a few occasions may be less than 150.

6.4.3 Measures

The following measures were selected on the basis of the existing literature to cover the areas of the psychological model of occupational stress, i.e. stressors, mediators/moderators, and strains, and were administered to the medics and P.A.M.'s selected. They are described in more detail in Chapter 4.

i) Demographic Information : Personal details were obtained on gender, age, marital status, academic level reached, partner's working status and number of children living at home. Job-related information was recorded on grade, base, length of time professionally qualified, full-time or part-time working, type of shift system worked, length in current post, length employed by the organisation, number of hours worked in the previous week, number of reportable errors made in the previous six months and number of units of alcohol consumed in the previous week.

ii) Stressors: A range of stressors which could be present in many forms of work or in non-working life were assessed in addition to profession specific stressors.

a) *Understanding, predictability and control* of job-related events was assessed using the 12-item Understanding, Predictability and Control scale devised by Tetrick and LaRocco (1987).

b) *Role conflict* was assessed using the three-item Role Conflict measure of Caplan *et al.* (1980).

c) *Role ambiguity* was assessed using the four-item Role Ambiguity measure designed by Caplan *et al.* (1980).

- d) *Job future ambiguity* was measured using the four-item Job Future Ambiguity questionnaire designed by Caplan *et al.* (1980).
- e) *Non-occupational stressors* were assessed using a 5-item purpose-designed measure tapping the major life areas of housing, finances, spouse/partner relationship, child care, and leisure/social interests.
- f) Occupational stress was assessed using the 25-item *Specialist Doctors Stress Inventory* (SDSI; Agius *et al.*, 1996). This was chosen for both medics and P.A.M.'s as the content reflects the similarities in job requirements for both these occupational groups, e.g. having clinical responsibilities, juggling a variety of demands, etc.
- g) Actual work demands were assessed using the 8-item *Consultants Work Demands Scale* (CWD; Agius *et al.*, 1996). As with the SDSI, this was considered appropriate for both medics and P.A.M.'s.
- iii) Mediators/Moderators:
- a) Coping strategies were assessed using the 28-item '*How you cope with stress you experience*' measure from the Occupational Stress Indicator (Cooper *et al.*, 1988).
- b) Social support was assessed using the House & Wells (1978) 13-item *Social Support measure*.
- c) Positive and negativity affectivity was assessed using the 20-item *Positive and Negative Affect Schedule* (PANAS; Watson *et al.*, 1988).
- iv) Strains:
- a) Psychosomatic and physiological stress symptoms were assessed using the 17-item *Psysom* (Burton *et al.*, 1996).
- b) Burnout was assessed using the 22-item *Maslach Burnout Inventory* (MBI; Maslach & Jackson, 1981b, 1993). Although initially devised for nursing staff, the

MBI has been used with a wide range of health personnel who have direct patient contact.

c) Psychological strain was assessed using the 12-item *General Health Questionnaire* (GHQ-12; Goldberg, 1992).

d) *Job satisfaction* was assessed using the Warr, Cook and Wall (1979) sixteen item measure.

e) Participants were asked to record the total number of days *sick leave* they had had in the six months prior to completion of the questionnaire.

6.5 Analysis

Analysis of the data was conducted using a range of statistical procedures.

Differences between groups on the SDSI and between sample means and normative data were examined using t tests. Differences on the SDSI between the various job and personal demographics were examined using t tests or analyses of variance (ANOVA) as appropriate. The strength and direction of relationships between the subscales of the SDSI and between other variables were determined using Pearson's correlation coefficients. A hierarchical regression analysis was carried out to determine the ability of demographics, generic stressors, and mediators/moderators to predict scores on the SDSI.

6.6 Results

6.6.1 Demographic characteristics of the study sample

The personal and job demographics of the sample are outlined in Table 6.1. The mean age of the sample was approximately 39 years with a preponderance of females (82.7%). The majority of medics and P.A.M.'s in the sample were either married

(71.3%) or single (14.7%) with partners who were working full-time (66.7%). More than one third of the medics & P.A.M.'s had no children living at home (41.3%). Of those who had children, the commonest numbers were two (26.0%) or three (10.7%). The majority of medics and P.A.M.'s in the group had either a degree (61.3%) or a higher degree (25.3%) making them probably the most highly qualified group of professionals in the NHS. On average the medics and P.A.M.'s in the study had been qualified for 16.3 years, had been in the employ of the organisation for 9.2 years and had been in their current post for 6.2 years. The majority of medics and P.A.M.'s were based in hospitals (72.7%) rather than in the community (17.3%). Most worked full-time (56.7%) and very few worked shifts (1.3%). The average number of hours worked in the week previous to completion of the questionnaire was 35.6. One person reported having made a reportable error in the previous six months and one person was recorded as having consumed more than twenty-eight units of alcohol in the previous week.

6.6.2 Specialist Doctor's Stress Inventory

Overall, the study sample obtained a mean total score on the SDSI of 27.5 (possible range 0 to 75). Although the medics scored more highly than the P.A.M.'s (29.7 and 26.4 respectively) the difference was not statistically significant. The mean scores obtained on the various subscales can be seen in Table 6.2. Again, there were no significant differences between the medics and the P.A.M.'s on any of the SDSI subscales and therefore the two occupational groupings have been amalgamated for the remainder of the analyses. The intercorrelations of the subscales of the SDSI range from .48 to .70 (see Table 6.2). Those scoring greater than or equal to 28 (i.e. greater than the group mean) on the SDSI did not differ from the rest of the group in

terms of gender, marital status, academic status, partner's working status, total number of children living at home, job base, working pattern, shift working, type of shift worked, age, length qualified, length employed by the organisation or length in post.

Table 6.1: Personal and job demographics of medics and professions allied to medicine in study sample (N=150)

	N (%)		N(%)
Gender:		Occupational groups:	
Male	21 (14.0)	Medical	36 (24.0)
Female	124 (82.7)	P.A.M. *	112 (74.7)
Marital Status:		Job base:	
Single	22 (14.7)	Community	26 (17.3)
Cohabiting	9 (6.0)	Hospital	109 (72.7)
Married	107 (71.3)	Hospital + Community	1 (0.7)
Separated	5 (3.3)		
Divorced	5 (3.3)		
Academic status:		Working pattern:	
No formal qualifications	2 (1.3)	Full-time	85 (56.7)
O grade/GCSE	4 (2.7)	Part-time	63 (42.0)
A level/Higher/SYS	6 (4.0)		
HND/HNC	6 (4.0)	Shift worker:	
Degree	92 (61.3)	Yes	2 (1.3)
Higher degree	38 (25.3)	No	143 (95.3)
Partner's working status:		Shift type:	
Working full-time	100 (66.7)	Flexible	0 (0)
Working part-time	9 (6.0)	Regular	0 (0)
Unemployed	1 (0.7)	Irregular	2 (1.3)
Unable to work	2 (1.3)	Not applicable	143 (95.3)
Retired	3 (2.0)		
Not applicable	30 (20.0)	Children living at home:	
		0	62 (41.3)
		1	14 (9.3)
		2	39 (26.0)
		3	16 (10.7)
		4	5 (3.3)
	Mean(SD)	Range	
Age (years)	38.8 (10.4)	21-65	
Length qualified (years)	16.3 (10.3)	0.5-44	
Length employed by organisation (years)	9.2 (7.5)	0.4-31	
Length in post (years)	6.2 (5.8)	0.4-28	
Hours worked in past week	35.6 (21.8)	0-146	

*Includes Physiotherapy, Occupational Therapy, Speech & language Therapy, Dental & Clinical Psychology.

Table 6.2: Mean scores (SD) and intercorrelations amongst the subscales of the Specialist Doctors Stress Inventory for medics and professions allied to medicine in study sample (N=150).

Specialist Doctors Stress Inventory	Study mean (SD)	1	2	3	4	5
1. SDSI Total	27.5 (12.2)		.79**	.87**	.81**	.81**
2. Clinical responsibility	7.4 (3.5)			.58**	.56**	.48**
3. Demands on time	7.3 (4.0)				.70**	.58**
4. Organisational constraints	5.1 (3.0)					.50**
5. Personal confidence	7.7 (4.3)					

Key: * $p < 0.01$, ** $p < 0.001$.

The percentages endorsing the individual items of the SDSI (i.e. scoring '1' or higher) are shown in Table 6.3. Three of the top five most frequently endorsed items fell under the 'clinical responsibility' subscale. The remaining two were from the 'demands on time' and 'organisational constraints' subscales. The most frequently endorsed item (by 85.3%) was 'Dealing with uncooperative, anxious, abusive, or otherwise difficult patients and relatives'.

Items reported as 'never stressful' (i.e. 0) by the greatest number of individuals included 'Being on call' (n=118, 78.7%) a 'clinical responsibility' item; 'Critical peer group pressure' (n=72, 48.0%) a 'personal confidence' item; 'Threat of litigation' (n=68, 45.3%) a 'clinical responsibility' item; 'Interference from non-health professionals in determining how you practice your profession' (n=63, 42.0%) an 'organisational constraints' item; and 'Lacking opportunities to share feelings and experiences with colleagues' (n=56, 37.3%) a 'personal confidence' item.

Items reported as 'very frequently stressful' (i.e. 3) by the greatest number of respondents included 'Lacking the resources (staff or equipment) to adequately meet

Table 6.3: Percent endorsement and mean response (SD) for the 25 items of the Specialist Doctors Stress Inventory for medics and professions allied to medicine in study sample (N=150).

Items	Rank of endorsement	% Endorsement*	Overall Group Mean (SD)	Medics N = 36 Mean (SD)	P.A.M. N = 112 Mean (SD)
<u>Clinical Responsibility</u>					
Feeling ultimately responsible for patient outcomes	5	80.7%	1.1 (0.7)	1.3 (0.6)	0.9 (0.8)
Fearing that a mistake will be made in the treatment of a patient	7	79.3%	1.0 (0.6)	1.2 (0.6)	1.0 (0.4)
Caring for the emotional needs of patients	3	82.7%	1.3 (0.8)	1.4 (0.7)	1.1 (0.9)
Dealing with uncooperative, anxious, abusive, or otherwise difficult patients and relatives	1	85.3%	1.3 (0.8)	1.3 (0.7)	1.3 (0.8)
Pressure for definite diagnosis and treatment plan from patients or relatives	19	64.0%	0.8 (0.7)	1.1 (0.5)	0.6 (0.7)
Threat of litigation	23	48.0%	0.6 (0.7)	0.8 (0.6)	0.4 (0.4)
Being on call	25	15.3%	0.3 (0.6)	0.6 (0.9)	0.1 (0.3)
Coping with the suffering or death of patients	16	67.3%	1.0 (0.8)	1.0 (0.7)	0.9 (0.9)
<u>Demands on Time</u>					
Having so much work to do that everything cannot be done well	2	84.0%	1.7 (1.0)	1.8 (0.9)	1.3 (0.9)
Being interrupted by phone calls or people while performing job duties	6	80.0%	1.5 (1.0)	1.7 (1.0)	1.2 (1.0)
Finding time for research and teaching demands	9	74.7%	1.5 (1.0)	1.7 (1.0)	1.3 (1.1)
Meetings deadlines for reports and publications	12	72.0%	1.4 (1.1)	1.4 (1.0)	1.1 (1.0)
Having job duties which conflict with family responsibilities	17 =	64.7%	1.1 (1.0)	1.4 (1.0)	0.7 (0.8)
<u>Organisational Constraints</u>					
Lacking the resources (staff or equipment) to adequately meet patient's needs	4	81.3%	1.7 (1.0)	1.5 (0.9)	1.5 (1.1)
Experiencing conflicts with managers and/or administrators	15	68.0%	1.1 (0.9)	1.2 (0.8)	1.0 (1.1)
Trying to meet expectations from patients, public and media for high quality medical care while constrained by a lack of resources	8	77.3%	1.4 (1.0)	1.4 (0.9)	1.2 (0.9)
Interference from non-health professionals in determining how you practice your profession	22	52.0%	0.8 (0.9)	0.9 (0.8)	0.6 (0.8)
<u>Personal Confidence</u>					
Keeping up with new developments in order to maintain professional competence	10	73.3%	1.1 (0.8)	1.1 (0.9)	0.9 (0.8)
Critical peer group pressure	24	46.0%	0.6 (0.7)	0.7 (0.7)	0.4 (0.6)
Experiencing conflicts with co-workers	17 =	64.7%	0.9 (0.8)	0.9 (0.6)	0.9 (0.8)
Need to derive intellectual and educational growth	14	70.0%	1.1 (0.9)	1.1 (0.9)	0.8 (0.8)
Trying to maintain self-confidence	11	72.7%	1.2 (0.9)	1.1 (0.8)	0.8 (0.8)
Receiving inadequate feedback on your job performance from colleagues and patients	13	70.7%	0.9 (0.7)	0.8 (0.7)	0.8 (0.7)
Lacking opportunities to share feelings and experiences with colleagues	21	57.3%	0.8 (0.8)	0.9 (0.9)	0.8 (0.8)
Feeling that opportunities for advancement on the job front are poor	20	62.0%	1.1 (1.0)	0.5 (0.7)	0.9 (0.9)

Key: * Scoring '1' or higher

patient's needs' (n=37, 24.7%) an 'organisational constraints' item; 'Having so much work to do that everything cannot be done well' (n=34, 22.7%), 'Finding time for research and teaching demands' (n=29, 19.3%), 'Meeting deadlines for reports and publications' (n=29, 19.3%), and 'Being interrupted by phonecalls or people while performing job duties' (n=25, 16.7%), all these being 'demands on time' items.

The correlations between the SDSI and a range of personal and job demographics are shown in Table 6.4. As can be seen the only significant correlations were between the number of hours worked in the week previous to completion of the questionnaire and 'clinical responsibility' ($r=.26$, $p<0.01$) and 'demands on time' ($r=.23$, $p<0.01$). The staff who had worked a greater than average number of hours (i.e. ≥ 36) in the previous week scored significantly more highly on the SDSI total (t (df 135) = 2.8, $p<0.01$).

Table 6.4: Pearson's correlations showing the relationship between the subscales of the Specialist Doctors Stress Inventory and personal and job demographics for medics and professions allied to medicine in study sample (N=150).

SDSI	1	2	3	4	5	6
Total	.04	.06	.08	-.01	.13	.18
CR	-.02	-.03	-.03	-.07	.10	.26*
DT	.12	.18	.15	.02	.16	.23*
OC	.09	-.06	.14	.12	.17	.13
PC	-.05	.06	.01	-.09	.02	-.02
1		.09	.95**	.60**	.65**	.04
2			.22	-.09	.10	-.08
3				.63**	.72**	.004
4					.70**	.02
5						-.05
6						

Key: CR - Clinical Responsibilities, DT - Demands on Time, OC - Organisational Constraints, PC - Personal Confidence; 1 - Age, 2 - Number children living at home, 3 - Length qualified, 4 - Length in post, 5 - Length employed by the organisation, 6 - Hours worked in the past week; * = $p < 0.01$, ** = $p < 0.001$

Table 6.5 consists of the correlational matrix for the SDSI and the generic stressors, non-occupational stressors, mediators/moderators and strains. All four subscales of the SDSI correlated significantly and in a negative direction with predictability. The strongest correlations were with 'clinical responsibility' ($r = -.38, p < 0.001$) and 'demands on time' ($r = -.35, p < 0.001$). There were also highly significant ($p < 0.001$) positive correlations between all four of the SDSI subscales and role conflict (CR $r = .32$, DT $r = .38$, OC $r = .32$, PC $r = .36$), negative affectivity (CR $r = .35$, DT $r = .43$, OC $r = .35$, PC $r = .45$), Psysom (CR $r = .33$, DT $r = .39$, OC $r = .36$, PC $r = .39$), and GHQ (CR $r = .30$, DT $r = .40$, OC $r = .31$, PC $r = .33$). 'Demands on time' and 'personal confidence' were significantly ($p < 0.01$) associated with the total number of non-occupational stressors ($r = .24$ and $r = .23$ respectively). All subscales except 'clinical responsibility' correlated with total job satisfaction: (DT $r = -.29, p < 0.01$; OC $r = -.40, p < 0.001$; PC $r = -.31, p < 0.001$). Both 'organisational constraints' and 'personal confidence' were associated with role ambiguity ($r = -.25, p < 0.01$ and $r = -.36, p < 0.001$ respectively) and only 'personal confidence' correlated significantly ($p < 0.01$) with understanding ($r = .26$). There were no significant correlations between the SDSI and control, job future ambiguity, coping, social support, positive affectivity and sick leave.

6.6.3 SDSI and Burnout

Table 6.6 shows the correlations between the SDSI and the Maslach Burnout Inventory (MBI). Emotional exhaustion correlated highly significantly ($p < 0.001$) and in a positive direction with all of the SDSI subscales but most strongly with the 'demands on time' subscale ($r = .61$). Depersonalisation was highly significantly ($p < 0.001$) associated with 'clinical responsibility' ($r = .37$) and 'organisational

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
1		.79**	.87**	.81**	.81**	-.16	-.37**	-.17	.42**	-.27*	-.09	.19	.13	-.16	-.15	.49**	.45**	.41**	-.36**	.03	
2			.58**	.56**	.48**	-.10	-.38**	-.11	.32**	-.13	.07	.06	.06	-.04	-.11	.35**	.33**	.30**	-.19	-.05	
3				.70**	.58**	-.04	-.35**	-.10	.38**	-.18	-.04	.24*	.06	-.18	-.09	.43**	.39**	.40**	-.29*	.01	
4					.50**	-.11	-.27*	-.11	.32**	-.25*	-.10	.05	.20	-.21	-.06	.35**	.36**	.31**	-.40**	.01	
5						-.26*	-.24*	-.22	.36**	-.36**	-.20	.23*	.13	-.11	-.22	.45**	.39**	.33**	-.31**	.11	
6							-.10	.37**	-.01	.18	.20	.04	.20	.27*	.21	-.28*	-.16	-.23*	.30**	-.08	
7								.09	-.39**	.21	.01	-.12	-.05	.12	-.04	-.32**	-.28*	-.17	.24*	-.07	
8									-.24*	.38**	.28*	-.06	.13	.31**	.30**	-.31**	-.11	-.23*	.49**	-.19	
9										-.38**	-.09	.07	-.02	-.28*	.02	.33**	.25*	.23*	-.38**	.20	
10											.33**	-.07	.06	.15	.16	-.25*	-.14	-.24*	.42**	-.12	
11												-.20	.05	.19	.20	-.29*	-.12	-.23*	.35**	-.01	
12													-.09	.07	-.18	.37**	.30**	.34**	-.13	-.05	
13														.12	.19	-.17	.01	-.15	.01	.06	
14															.14	-.24*	-.12	-.19	.49**	.02	
15																-.17	-.18	-.31**	.29**	-.10	
16																		.52**	.65**	-.26*	.09
17																			.45**	-.22*	.17
18																				-.30**	.05
19																					-.11
20																					

Key: 1 - SDSI Total, 2 - Clinical responsibilities, 3 - Demands on time, 4 - Organisational constraints, 5 - Personal confidence, 6 - Understanding, 7 - Predictability, 8 - Control, 9 - Role Conflict, 10 - Role Ambiguity, 11 - Job Future Ambiguity, 12 - Total number non-occupational stressors, 13 - Coping styles, 14 - Social Support, 15 - Positive Affectivity, 16 - Negative Affectivity, 17 - Psysom, 18 - GHQ, 19 - Job satisfaction, 20 - Sick leave; * $p < 0.01$, ** $p < 0.001$.

Table 6.5: Pearson's correlations showing the relationship between the subscales of the Specialists Doctors Stress Inventory and the stressor, mediating/moderating, and strain variables for medics and professions allied to medicine in study sample (N=150).

constraints' ($r = .29$) and, to a lesser extent ($p < 0.01$), with 'demands on time' ($r = .28$).

Personal accomplishment did not correlate significantly with any of the SDSI subscales.

Table 6.6: Pearson's correlations showing the relationship between the subscales of the Specialist Doctors Stress Inventory and the Maslach Burnout Inventory for medicals and professions allied to medicine in study sample (N=150).

	SDSI Total	CR	DT	OC	PC	EE	DP	PA
SDSI Total		.79**	.87**	.81**	.81**	.65**	.31**	.06
CR			.58**	.56**	.48**	.55**	.37**	.01
DT				.70**	.58**	.61**	.28*	.06
OC					.50**	.55**	.29**	.13
PC						.44**	.12	.02
EE							.42**	-.04
DP								-.09
PA								

Key: CR - Clinical Responsibilities, DT - Demands on Time, OC - Organisational Constraints, PC - Personal Confidence; EE - Emotional Exhaustion, DP - Depersonalisation, PA - Personal Accomplishment; * = $p < 0.01$, ** = $p < 0.001$

6.6.4 SDSI and work demands

Clinical and academic work demands correlated positively with three of the four SDSI subscales. The correlations with academic work demands were stronger ($p < 0.001$) than those with clinical work demands ($p < 0.01$). Administrative work demands correlated with all four SDSI subscales but most strongly ($p < 0.001$) with 'organisational constraints' and 'demands on time'.

6.6.5 Predicting scores on the SDSI

Hierarchical regression analysis was used to investigate the relative contribution of demographic variables, work demands, generic stressors and negative affectivity to total score on the SDSI. The value for adjusted R^2 (the corrected estimate of the proportion of the variance of the dependent variable accounted for by regression) is

Table 6.7: Pearson's correlations showing the relationship between the subscales of the Specialist Doctors Stress Inventory and the Consultants Work Demands measure for medics and professions allied to medicine in study sample (N=150).

	SDSI Total	CR	DT	OC	PC	CWD Total	Clin	Acad	Admin
SDSI Total		.79**	.87**	.81**	.81**	.40**	.23*	.37**	.39**
CR			.58**	.56**	.48**	.35**	.23*	.32**	.25*
DT				.70**	.58**	.47**	.28*	.46**	.38**
OC					.50**	.40**	.26*	.31**	.39**
PC						.14	.03	.15	.27*
CWD Total							.88**	.62**	.44**
Clin								.23*	.16
Acad									.27*
Admin									

Key: CR - Clinical Responsibilities, DT - Demands on Time, OC - Organisational Constraints, PC - Personal Confidence; Clin - CWD Clinical, Acad - CWD Academic, Admin - CWD Administrative;
* = $p < 0.01$, ** = $p < 0.001$

reported. The values for β represent the change in the dependent variable (expressed in standard deviation units) that would be produced by a positive increment of one standard deviation in the explanatory variable. Regression ANOVA tests whether there really is a linear relationship between the variables. Scatterplots of the standardised residuals against the standardised predicted values showed no obvious pattern thereby confirming that the assumptions of linearity and homogeneity of variance had been met.

Table 6.8 indicates that 44.2% of total stressors in medics and P.A.M.'s was accounted for by the explanatory variables listed. Demographics accounted for only 5.9% of the variance, with work demands adding another 8.5%. Generic stressors predicted an additional 15.8% of the variance whilst negative affectivity contributed an additional 14%. Negative affectivity made the greatest contribution to the total score on the SDSI ($\beta = 0.4$, $p < 0.001$) with role conflict also contributing significantly

($\beta = 0.3$, $p < 0.01$). The regression ANOVA was significant ($F(13,92) = 7.4$, $p < 0.001$).

Thus the total score on the SDSI in medics and P.A.M.'s was increased by negative affectivity and role conflict.

Table 6.8: Hierarchical regression analysis of Specialist Doctors Stress Inventory

Step	B	Multiple R	Adjusted R ²
1. Demographics			
Hours worked in previous week	.2	.3	.059
Length qualified	.8		
Total number of children living at home	-.1		
Length in post	-.3		
Length employed by the organisation	.2		
Age	-.6		
		Overall F (6,99) = 2.1	
2. Consultants Work Demands			
CWD Clinical	.1	.5	.144
CWD Academic	.2		
CWD Administrative	.2		
		Overall F (9,96) = 3.0*	
3. Generic Stressors			
Role ambiguity	-.2	.6	.302
Role conflict	.3*		
Predictability	-.1		
		Overall F (12,93) = 4.8**	
4. Mediators/Moderators			
Negative affectivity	.4**	.7	.442
		Final F (13,92) = 7.4**	

Key: * $p < 0.01$, ** $p < 0.001$.

6.7 Discussion

This study aimed to assess the levels of occupational stress in medics and Professions Allied to Medicine (P.A.M.'s), as measured by the Specialist Doctors Stress Inventory, in a sample of these occupational groups working in a Scottish NHS Trust which provided acute and continuing care psychiatric services in a range of hospital and community bases. In addition, the study aimed to identify the correlates of reported stress from a range of measures of generic stressors, non-occupational stressors, coping styles, social support, personality, and physical, psychological and

behavioural strains. Combinations of significant correlates were then used to determine the predictors of occupational stress.

The present study adopted a cross-sectional design which allows relationships between variables to be identified at one point in time only and thus makes it difficult to draw causal inferences. A longitudinal design would have addressed this weakness but such an approach was beyond the scope of this study. However, longitudinal designs have their own methodological problems, including selection effects and uncontrollable intervening variables (Frese & Zapf, 1988), which may limit the robustness of any causal interpretations. The data collected was based on self-report data only and could therefore be open to common-method bias (Frese & Zapf, 1988). Clearly a reliance on more than one method of data collection would overcome this criticism to a degree, but this is not always easily achievable. In addition, studies have shown that there is a high correlation between expert ratings and subjective assessments of the same job conditions (Spector, 1992). Self-report questionnaires have been criticised as being purely subjective, however some authors have suggested that such questionnaires consist of items which are more or less objective depending upon the degree of cognitive and emotional processing required. For example, Frese & Zapf (1988) have argued that questionnaire items requiring a minimum of such processing are likely to be less prone to subjective interpretation. Clearly a limited range of variables were examined and there may be other relevant factors which were not included which may have had an influence. The sample size was designed to be representative and to permit generalisability of findings. Any small differences between the medics and P.A.M.'s may have been masked, however, in relation to the

regression analysis, there are more than the recommended five to ten participants per predictor variable (Tabachnik & Fidell, 1989; Nunnally & Bernstein, 1994). All participants came from one employing Trust to minimise any confounding factors in this regard. The response rate of 54.3%, although moderate, is in keeping with that of studies with a similar methodology (e.g. Borrill *et al.*, 1996). Finally, the results of this study can only be viewed in relation to staff working in psychiatric settings and cannot be generalised to other locations such as acute or general medicine.

Results indicated that the medics and P.A.M.'s in the study sample reported stress levels below the midpoint of the SDSI. This is in keeping with the results of Agius *et al.* (1996) who found that the mean stress score for consultants on the SDSI (using a different scoring procedure) was 42.8 out of a possible 100. Other authors have reported stress levels in medics below the midpoint of the stressor measure used (Wolfgang, 1988) and often the lowest score of other health professionals examined (Wolfgang, 1988; Rees & Cooper, 1990). The medics and P.A.M.'s did not differ significantly on their scores on the SDSI nor was there any difference between high (i.e. greater than the group mean) and low scorers on a range of personal and job demographics. Three of the top five most frequently endorsed items fell within the 'clinical responsibility' subscale indicating that aspects of patient care were relevant to feelings of stress on the job. Agius *et al.* (1996) found that for their consultants 'demands on time' items were the top two most frequently endorsed with 'organisational constraints' items making up the next two. It may be that the difference of work setting and client group between the sample in the present study and that used by Agius *et al.* (1996) may have had an influence on the nature of

stressors identified. However, Deary *et al.* (1996a) found a strong similarity in both the mean stress scores and the rankings of individual items between consultant psychiatrists and a comparison group of physicians and surgeons. Using the Health Professions Stress Inventory, Wolfgang (1988) found that one of the items on which medics scored more highly than their comparison groups of nurses and pharmacists was 'feeling ultimately responsible for patient outcomes' while Rees & Cooper (1990), using the Occupational Stress Indicator, reported that 'factors intrinsic to the job' was the subscale on which doctors scored more highly than administrative and clerical staff, nurses and the professions allied to medicine. In the present study, the items perceived as most stressful concerned aspects of lacking resources and the varied demands on individual's time. This latter finding is in keeping with that of Agius *et al.* (1996) and other authors (Simpson & Grant, 1991; Sutherland & Cooper, 1993; Ramirez *et al.*, 1995).

It is of particular interest that, of the demographics examined, only hours worked in the previous week had any significant relationship with the SDSI. There was no significant relationship between age and the SDSI in the present study unlike the Agius *et al.* (1996) study where age was found to be negatively correlated with the overall SDSI score. In the present study the staff who had worked more than 36 hours in the week prior to completion of the questionnaire scored significantly more highly on the stressor measure than those who had worked less than this. Actual and contracted NHS sessions have been found to be positively correlated with the overall SDSI score (Agius *et al.*, 1996). Other researchers have commented on the effects of long working hours on medical staff, in particular junior doctors, and there are

various initiatives underway in the UK to address this specific concern (Department of Health, 1991). Not only do long working hours seem to have a negative effect on the individual well-being of these staff but there could also be a knock-on effect in terms of performance and aspects of patient care. For example, Kirkcaldy *et al.* (1997) found that in German medical and dental practitioners job stress was significantly positively correlated with working hours and that both of these variables were among the predictors of work-related accidents.

There was a substantial degree of overlap in terms of the correlates of the various subscales of the SDSI. High scoring on all four subscales was associated with less predictability, greater role conflict, greater negative affectivity, higher levels of physical stress symptomatology, greater psychological distress, and higher levels of emotional exhaustion. Therefore the more unpredictable the job and the greater the conflicting demands combined with a 'negative' personality, the greater the physical and psychological stress symptomatology and the greater the reported job stressors. Rees & Cooper (1990) found that job pressure on the OSI was positively associated with mental and physical health and control, and negatively with job satisfaction.

Only 'organisational constraints' and 'personal confidence' were associated with role ambiguity in that the more unclear one's role the more one reported these areas as stressful. An unusual finding was that higher stress from 'personal confidence' issues was associated with greater job related understanding. The overall level of work demands was positively associated with all of the subscales except 'personal confidence' which was only associated with administrative work demands. Agius *et*

al. (1996) also found that administrative work demands was positively associated with 'personal confidence' however they also found a more differential pattern of associations for the other three SDSI subscales which was not replicated here. Non-occupational concerns were related only to 'demands on time' and 'personal confidence'. This would make intuitive sense in that the demands on one's time may have an effect on the ability to deal effectively with issues in non-working life and thereby on one's personal confidence and esteem. Increased scores on 'demands on time', 'organisational constraints' and 'personal confidence' were associated with reduced job satisfaction suggesting it is the more peripheral aspects of the job rather than the core of patient care which has an effect on job satisfaction. Depersonalisation was positively associated with all but 'personal confidence'.

Using hierarchical regression analysis, 44.2% of the variance in the total stressors score was accounted for by a combination of demographics, work demands, generic stressors and negative affectivity. Negative affectivity and role conflict made the greatest contributions to the total score. This would suggest that in medical staff and P.A.M.'s personality has much to do with experiencing and reporting of work stressors. Also, having to deal with conflicting roles, which is an inherent part of these professions particularly in the more senior positions, is associated with experiencing work-related stressors. Sutherland & Cooper (1993) also found that 'role stressor' was a theme which emerged for GP's and they equated this with the conflict between the job task and new role demands.

According to various authors there may be some self-selection involved in entering the helping professions including obsessive-compulsive personalities, inflexibility and inability to tolerate uncertainty, personal need for approval (Belfer, 1989), self-criticism (Firth-Cozens, 1998) etc., which predispose individuals to experience difficulties under certain pressures. Deary *et al.* (1996b) administered the NEO-five factor personality inventory to a group of consultants and found a significant association with neuroticism (similar to negative affectivity) and all elements of the SDSI. In other words, high neuroticism scorers reported more job stress generally. They proposed that certain personality dimensions will predispose individuals towards using emotion-focused coping and thereby to reporting higher levels of job stress and experiencing negative psychological outcomes. In a separate analysis of consultant psychiatrists Deary *et al.* (1996a) proposed that a 'latent person-centred' variable, closely associated with neuroticism, could be an important determinant of mental health. The results of the present study, in keeping with the findings of others (e.g. Parkes, 1990; Spector & O'Connell, 1994), identified that the personality construct of negative affectivity is important in the report of work stressors in medics and P.A.M.'s. Such a finding may have ramifications for selection at training. Powis & Rolfe (1998) found that medical students chosen for qualities other than their academic record, for example, empathy, problem solving, etc., had a better quality of life and greater job satisfaction after qualification and no worse academic results. Deary *et al.* (1996a) proposed a programme of education regarding personality and work-stress associations in order to facilitate informed decision making in the area of medical careers, and organisational change interventions as an alternative to screening measures.

6.8 Conclusion

However, looking at a wider range of individual characteristics in relation to selection for training is by no means the full extent of interventions that could be applied in the area of occupational stress in medics and P.A.M.'s. Other areas of intervention could include improving help-seeking of those individuals who are having difficulty coping for whatever reason (Baldwin *et al.*, 1997; Moss & Paice, 1999). Doctors, in particular, are seen as reluctant to initiate help-seeking behaviour (Belfer, 1989) perhaps out of some misapprehension as to how this may be perceived by colleagues, management or indeed clients. Training in stress management, including cognitive restructuring (Firth-Cozens, 1998; Firth-Cozens, 1999), may provide such professions with 'protective' skills to buffer the effects of occupational stress. Team building (Sutherland & Cooper, 1993; Carter & West, 1999) approaches could be aimed at enhancing social support networks and reducing any professional isolation experienced by these professions. Many medics and P.A.M.'s come to adopt significant managerial responsibilities as they gain promotion and these responsibilities may conflict with clinical role responsibilities in that the individual experiences incompatible demands. Management skills training (Ramirez *et al.*, 1995; Swanson *et al.*, 1996) is often absent for these individuals and such programmes may provide greater skills and increased confidence in dealing with this aspect of one's role.

The majority of the interventions described thus far have focused on secondary (protective) and tertiary (rehabilitative) level interventions which are targeted at individuals or smaller groups of staff. Primary (preventative) level interventions are

much less commonly attempted by organisations as they are perceived as more costly and more difficult to achieve. Organisational strategies which may be beneficial to medics and P.A.M.'s include work redesign (Murphy *et al.*, 1994), for example, more flexible working arrangements (Kirkcaldy *et al.*, 1997), and the use of objective setting and performance feedback systems (O'Driscoll & Cooper, 1996b).

Future research in the field of occupational stress in medics and P.A.M.'s is likely to be more relevant if it continues to develop stressor-specific measures for these professional groups as in the style of Agius *et al.* (1996). It is also important to take into account personal characteristics such as negative affectivity and coping style as these will have an interactive effect in terms of any strain subsequently experienced. A comprehensive approach to intervention for these groups must address not only rehabilitative and protective strategies but also preventative measures whether that be prior to or in the course of training, or within the organisation whilst on the job.

CHAPTER 7:

Job Satisfaction in Health Service Management and Support Staff

7.1 **Abstract**

Job satisfaction in health service staff is an issue which receives much media attention and has been closely examined in the research literature. It has been said to have ramifications for well-being, absenteeism, turnover and, to a lesser extent, job performance. Job satisfaction is rarely assessed as part of a comprehensive model of occupational stress, a short-coming which this paper attempts to redress.

Of a randomly selected sample of 526 staff from one Scottish mental health service Trust, 209 responded and they consisted of approximately 13% management, 49% administrative/clerical, and 35% ancillary/trade. The participants completed a questionnaire based on a psychological model of occupational stress involving stressor, mediator/moderator and strain measures. The latter included the Warr *et al.* (1979) job satisfaction measure as the main dependent variable.

Overall, the study sample had significantly lower scores on job satisfaction than normative data. However, management reported similar levels of job satisfaction as university graduates and ancillary/trade staff reported similar levels to manual workers. The overall study sample reported moderate levels of job satisfaction but one way ANOVA revealed that management reported significantly higher total, intrinsic and employee relations satisfaction than both the administrative/clerical and the ancillary/trade staff. Job satisfaction was positively correlated with the demographic variables of age and length of time qualified. It was also significantly associated with the generic stressors of job-related control, role ambiguity, role conflict, job future ambiguity and non-occupational concerns. Higher levels of job satisfaction were associated with lower scores on the Sources of Pressure in Your Job

Scale. The intervening variables of social support and positive affectivity were positively associated with job satisfaction while negative affectivity was negatively associated with it. All strain measures, with the exception of sick leave, were significantly associated with job satisfaction and all, with the exception of personal accomplishment, in an negative direction. In terms of satisfaction, the most frequently endorsed item was 'the freedom to choose your own method of working' (85.1%) and in terms of dissatisfaction it was 'your rate of pay' (53.7%).

Hierarchical regression analysis revealed that selected explanatory variables accounted for 61.1% of job satisfaction in the study sample. Job-related control, social support, positive affectivity and age were positively associated whereas job stressors and job future ambiguity were negatively related. Job stressors and social support made the greatest contribution to job satisfaction.

The implications of the findings, in terms of a comprehensive approach to intervention aimed at enhancing job satisfaction in health service management and support staff, are discussed. Such an approach will involve interventions at the organisational and individual level.

7.2 Introduction and literature review

Measures of job satisfaction attempt to assess the extent to which an employee feels positively or negatively towards his or her job (Locke, 1976; Warr *et al.*, 1979). Job satisfaction has been positively associated with general well-being and negatively associated with a range of job stressors. Job dissatisfaction has been implicated in performance and productivity indicators such as absenteeism from work (Porter &

Steers, 1973; Clegg, 1983), intention to quit (Porter & Steers, 1973; Freeman, 1978) and labour turnover (Porter & Steers, 1973; Gruneberg & Osborne, 1982; Carsten & Spector, 1987).

From general population surveys such as the British Household Panel Survey (Rose *et al.*, 1991) and the Bristol Stress and Health at Work Study (Smith *et al.*, 2000) it would appear that British workers are highly satisfied with their jobs overall and with the nature of the work itself, but less so with their pay. Higher satisfaction is also associated with being female, being either at the younger or older end of the working age range, being married, having better general health, being less highly educated, working fewer hours, and being a manager rather than a member of clerical staff. Smith *et al.* (2000) found that those in the high work stress group were more dissatisfied with their take home pay, the way their work section was run and the way their abilities were used than the low work stress group. On the other hand, those in the low work stress group were more satisfied with their work prospects, with their colleagues and with their physical working conditions than the high work stress group.

A large number of studies have examined job satisfaction in managers from a range of public and private sector organisations (for example, Borrill & Haynes, 1999; Cavanaugh *et al.*, 2000; Yousef, 2000). However, the body of research that exists on job satisfaction in management and support staff in the health service are fewer in number despite some evidence that the prevalence of stress is higher among health care managers than among managers in other work settings. The tendency has been to concentrate such research efforts on the so-called 'front-line' staff such as nurses and

doctors, or to include all occupations in the one health service sample (e.g. Borrill *et al.*, 1998).

In studies of combined NHS staff samples it has been found that most dissatisfaction arose from facilities for smokers, nursery/crèche facilities, fitness facilities, staffing levels, relationships with senior management, level of pay, training, career prospects, special leave, etc. Higher job satisfaction was correlated with support from the immediate superior, influence in decision making, role clarity, peer support, feedback on work performance, control over work-related tasks, and better physical health.

Lower job satisfaction was associated with role problems and organisational permissiveness (Alexander, 1997; Haynes *et al.*, 1999; Goldberg & Waldman, 2000).

It would appear then that studies which compare the so-called non 'front-line' staff of the health service, i.e. management and support staff, on measures of job satisfaction are lacking. Yet, arguably these groups of staff are the back-bone of the health service and without them the 'front-line' staff could not function.

In summary therefore it would appear that, although considerable attention has been paid to the assessment of job satisfaction in the workforce, much less effort has gone into the examination of this construct and its correlates among the non 'front-line' staff of the health service. No identifiable study to date has contrasted management and support staff in the health service in Scotland, where health is a devolved matter dealt with by the Scottish Parliament, on a comparable job satisfaction measure.

Furthermore, there has been no published work to date among such employees which views job satisfaction from an interactional perspective taking account of the role of

occupation specific and generic stressors in the context of a range of possible moderating/mediating factors which may contribute to the experience of physical, psychological and behavioural strain, including job dissatisfaction.

7.3 The study rationale

The present study therefore attempted to address the issue of job satisfaction in management and support staff in Scotland working in a range of hospital and community based psychiatric services using measures based on an interactional model of occupational stress. Job satisfaction was seen as a strain consequence, possibly mediated by individual characteristics, of external stressors. A range of stressors, mediators/moderators and strains were assessed and a multivariate analysis was undertaken. In so doing, the present study aimed to rectify some of the methodological inadequacies of previous studies by utilising a sound and comprehensive theoretical perspective in a hitherto relatively under-researched group of NHS management and support staff.

7.4 Method

7.4.1 Procedure

The study sample was drawn from management and support staff employed in a Scottish health service Trust which provided both acute and continuing care psychiatric services in a range of hospital and community bases. A questionnaire was sent to the home addresses of staff with assurances regarding the anonymous, voluntary and confidential nature of the responses. Participants returned their completed questionnaire to the researchers in a pre-paid envelope. A standard

reminder letter was sent to the entire study sample two weeks after the initial mail shot.

7.4.2 Participants

The selection methodology is outlined in detail in section 4.3.1 of Chapter 4. Management and support staff were selected from all parts of the Trust using a stratified random sampling procedure. However, given the range of roles subsumed under the category of ‘ancillary/trade’, many of these were retained in order to enhance representativeness. Of the original sample size of 526 (i.e. 81.8% of the total management and support staff population at the time of the study), 209 participated giving a response rate of 39.7%. Of these, 27 were managers, 102 administrative/ clerical and 74 ancillary/trade. A small amount of missing data exists for some of the variables and therefore the sample size on a few occasions may be less than 209.

7.4.3 Measures

The following measures were selected on the basis of the existing literature to cover the areas of a psychological model of occupational stress, i.e. stressors, mediators/moderators, and strains. These measures are described in more detail in Chapter 4.

i) **Demographic Information** : Personal details were obtained on gender, age, marital status, academic level reached, partner’s working status and number of children living at home. Job-related information was recorded on occupational group, base, length of time professionally qualified, full-time or part-time working, type of shift system worked, length in current post, length employed by the organisation in total and number of hours worked in the previous week.

ii) **Stressors**: A range of stressors which could be present in any form of work or in non-working life were assessed in addition to profession specific stressors.

a) *Understanding, predictability and control* of job-related events was assessed using the 12-item Understanding, Predictability and Control scale devised by Tetrick and LaRocco (1987).

b) *Role conflict* was assessed using the three-item Role Conflict measure of Caplan *et al.* (1980) with the items used being modified for the purposes of this study.

c) *Role ambiguity* was assessed using the four-item Role Ambiguity measure designed by Caplan *et al.* (1980).

d) *Job future ambiguity* was measured using the four-item Job Future Ambiguity questionnaire designed by Caplan *et al.* (1980).

e) *Non-occupational stressors* were assessed using a purpose-designed measure. This consisted of five items designed to tap the major life areas of housing, finances, spouse/partner relationship, child care, and leisure/social interests.

f) Occupational stress was assessed using the *Sources of Pressure in your Job scale* from the Occupational Stress Indicator (Cooper *et al.*, 1988) which had been reduced to thirty-nine items.

g) Actual work demands were assessed using an 8-item *Work Demands Scale* (adapted from Agius *et al.*, 1996).

iii) **Mediators/Moderators**:

a) Coping strategies were assessed using the 28-item '*How you cope with stress you experience*' measure from the Occupational Stress Indicator (Cooper *et al.*, 1988).

b) Social support was assessed using the 13-item House & Wells (1978) *Social Support measure*.

c) Positive and negativity affectivity was assessed using the 20-item *Positive and Negative Affect Schedule* (PANAS) (Watson *et al.*, 1988).

iv) Strains:

a) Psychosomatic and physiological stress symptoms were assessed using the 17-item *Psysom* (Burton *et al.*, 1996).

b) Burnout was assessed using the 22-item *Maslach Burnout Inventory* (MBI - Maslach & Jackson, 1981b, 1993).

c) Psychological strain was assessed using the 12-item *General Health Questionnaire* (GHQ-12 - Goldberg, 1992).

d) *Job satisfaction* was assessed using the Warr, Cook and Wall (1979) sixteen item measure. Total job satisfaction is the sum of the first fifteen items which were rated on a seven point scale from 'I'm extremely dissatisfied' to 'I'm extremely satisfied' with a higher score indicating greater job satisfaction. Overall job satisfaction is determined from item sixteen. Seven items constitute a subscale entitled 'intrinsic job satisfaction' and the remaining eight items constitute a subscale entitled 'extrinsic job satisfaction'. There are three further subscales - four items comprising 'job itself intrinsic satisfaction'; five items comprising 'working conditions extrinsic satisfaction'; and six items comprising 'employee relations satisfaction'.

e) Participants were asked to record the total number of days *sick leave* they had had in the six months prior to completion of the questionnaire.

7.5 Analysis

Analysis of the data was conducted using a range of statistical procedures.

Differences between sample means and normative data were examined using t tests.

Differences in levels of job satisfaction between the various job and personal

demographics were examined using t tests or analyses of variance (ANOVA) as appropriate. Chi square and analysis of variance were used to assess differences between high and low scorers. The strength and direction of relationships between variables were determined using Pearson's correlation coefficients. Hierarchical regression analyses were carried out to determine the ability of demographics, stressors, mediators/moderators and strains to predict job satisfaction.

7.6 Results

7.6.1 Demographic characteristics of the study sample

The personal and job demographics of the sample are outlined in Table 7.1. The mean age of the sample was approximately 43 years with a preponderance of females (74.6%). The majority of management and support staff in the sample were either married (73.7%) or single (11.5%) with partners who were working full-time (60.8%). A substantial number of staff had no children living at home (41.6%). Of those who had children, the commonest numbers were two (27.3%) or one (21.1%). The majority of the study sample had either been educated to the O grade/GCSE level (27.8%) or had no formal qualifications (20.6%) making them probably the least highly qualified group of staff in the NHS. However, of the 27 management staff, 48.1% had a degree, 22.2% had a higher degree and another 22.2% had a HND/HNC. On average the management and support staff in the study had been qualified for 18 years, had been in the employ of the organisation for 10 years and had been in their current post for 7 years. The majority of the sample were based in hospitals (67.0%) rather than in the community (17.7%). Most worked full-time (62.2%) and very few worked shifts (7.7%). The average number of hours worked in the week previous to completion of the questionnaire was approximately 32.

Table 7.1: Personal and job demographics of management and support staff in study sample (N= 209)

	N (%)	N(%)
Gender:		
Male	49 (23.4)	
Female	156 (74.6)	
Marital Status:		
Single	24 (11.5)	
Cohabiting	13 (6.2)	
Married	154 (73.7)	
Separated	3 (1.4)	
Divorced	12 (5.7)	
Widowed	2 (1.0)	
Academic status:		
No formal qualifications	43 (20.6)	
O grade/GCSE	58 (27.8)	
A level/Higher/SYS	31 (14.8)	
HND/HNC	40 (19.1)	
Degree	20 (9.6)	
Higher degree	11 (5.3)	
Partner's working status:		
Working full-time	127 (60.8)	
Working part-time	20 (9.6)	
Unemployed	9 (4.3)	
Unable to work	8 (3.8)	
Retired	4 (1.9)	
Not applicable	36 (17.2)	
Children living at home:		
0	87 (41.6)	
1	44 (21.1)	
2	57 (27.3)	
3	7 (3.3)	
4	1 (0.5)	
	Mean(SD)	Range
Age (years)	43.3 (10.2)	21-64
Length qualified (years)	17.7 (12.1)	1-45
Length employed by organisation (years)	9.9 (8.0)	0.2-37
Length in post (years)	6.6 (6.5)	0.1-34
Hours worked in past week	32.2 (10.6)	0-60

7.6.2 Job satisfaction

Overall, the study sample obtained a mean total score on the job satisfaction measure of 67.0 (possible range 15 to 105), i.e. above the scale midpoint but closer to the midpoint than to the maximum, indicating a moderate degree of job satisfaction. The mean scores obtained on the various subscales can be seen in Table 7.2. The entire study sample reported significantly lower job satisfaction than normative samples of 590 male manual workers ($t(df\ 797) = 9.3, p < 0.001$) and 340 university graduates ($t(df\ 547) = 6.7, p < 0.001$) (Warr *et al.*, 1979). However, the mean for the managers in the present study was not significantly different from that of the university graduates and the mean for the ancillary/trade staff in the present study was not significantly different from the combined manual workers sample.

Table 7.2: Mean scores (SD) on the subscales of the job satisfaction measure for management and support staff in study sample (N= 209).

Job satisfaction	Overall	1 Managers	2 A/C	3 Ancillary /trade	F (df)	Post hoc Scheffe
	Mean(SD)	Mean(SD)	Mean(SD)	Mean(SD)		
1. Total	67.0 (15.1)	75.8 (12.0)	65.1 (14.7)	65.5 (15.9)	5.9* (2,198)	1>2* 1>3*
2. Intrinsic	31.4 (7.9)	36.3 (6.6)	30.4 (7.4)	30.5 (8.6)	6.6* (2,198)	1>2* 1>3*
3. Extrinsic	35.6 (8.1)	39.6 (6.5)	34.7 (8.2)	35.0 (8.1)	4.2 (2,198)	
4. Job itself intrinsic	19.4 (4.6)	22.3 (3.3)	18.8 (4.3)	18.9 (5.1)	6.9* (2,199)	1>2* 1>3*
5. Working conditions extrinsic	24.1 (4.9)	25.1 (4.0)	23.8 (5.1)	23.8 (5.0)	0.8 (2,199)	
6. Employee relations	23.6 (7.2)	28.5 (6.6)	22.7 (6.8)	22.8 (7.3)	7.9** (2,198)	1>2* 1>3*
7. Overall	4.9 (1.4)	5.2 (1.0)	4.9 (1.3)	4.7 (1.6)	1.3 (2,200)	

Key: A/C - Administrative/clerical; * $p < 0.01$, ** $p < 0.001$

One way ANOVA revealed significant differences between the three occupational groups, i.e. management, administrative/clerical, and ancillary/trade, in terms of total job satisfaction ($F(2,198) = 5.9, p < 0.01$) and the following subscales: intrinsic job satisfaction ($F(2,198) = 6.6, p < 0.01$); employee relations ($F(2, 198) = 7.9, p < 0.001$); and job itself intrinsic satisfaction ($F(2,199) = 6.9, p < 0.01$). On all these measures, post hoc Scheffe tests revealed higher levels of satisfaction for managers in comparison to administrative/clerical staff and in comparison to ancillary/trade staff. There were no differences between the occupational groups in terms of extrinsic satisfaction, and working conditions extrinsic satisfaction.

With regards to the entire sample, the percentages endorsing the individual items of the job satisfaction measure (i.e. scoring 5-7 meaning satisfied or 1-3 meaning dissatisfied) are shown in Table 7.3. In terms of satisfaction, three of the top five most frequently endorsed items were from the extrinsic subscale however, the most frequently endorsed item (by 85.1%) was an intrinsic item, i.e. 'The freedom to choose your own method of working'. Working conditions, i.e. physical environment, fellow workers and hours of work, and the job itself, i.e. control and variety, appeared to be what individuals were most satisfied with. In terms of dissatisfaction, three of the top five most frequently endorsed items were also from the extrinsic subscale with the most frequently endorsed item (by 53.7%) being 'Your rate of pay'. Employee relations, i.e. pay, organisational management, promotion, security and recognition, appeared to be what individuals were most dissatisfied with.

There were no significant differences in total job satisfaction in terms of gender, marital status, academic status, partner's working status, working base (hospital -v- community), working pattern (full-time -v- part-time), shift workers or shift types.

Table 7.3: Percent endorsement and mean response (SD) for the 16 items of the job satisfaction measure for management and support staff in study sample (N= 209).

Items	Satisfied* N (%)	Dissatisfied* N (%)	Overall Group Mean (SD)
1. The physical work conditions	147 (70.4)	50 (23.9)	4.8 (1.4)
2. The freedom to choose your own method of working	178 (85.1)	23 (10.9)	5.3 (1.3)
3. Your fellow workers	169 (80.9)	30 (14.4)	5.1 (1.4)
4. The recognition you get for good work	113 (54.0)	66 (31.6)	4.3 (1.7)
5. Your immediate boss	146 (69.8)	45 (21.4)	4.9 (1.7)
6. The amount of responsibility you are given	145 (69.4)	39 (18.7)	4.8 (1.4)
7. Your rate of pay	87 (41.6)	112 (53.7)	3.6 (1.7)
8. Your opportunity to use your abilities	128 (61.3)	60 (28.7)	4.4 (1.6)
9. Industrial relations between management and workers	105 (50.3)	61 (29.3)	4.2 (1.5)
10. Your chance of promotion	44 (21.1)	86 (41.1)	3.5 (1.4)
11. The way this organisation is managed	79 (37.8)	94 (45.0)	3.8 (1.6)
12. The attention paid to suggestions you make	105 (50.2)	59 (28.2)	4.2 (1.4)
13. Your hours of work	174 (83.2)	28 (13.3)	5.2 (1.3)
14. The amount of variety in your job	160 (76.5)	38 (18.2)	5.0 (1.4)
15. Your job security	87 (41.6)	68 (32.5)	4.0 (1.6)
16. Now, taking everything into consideration, how do you feel about your job as a whole ?	160 (76.5)	38 (18.1)	4.9 (1.4)

* Satisfied = a score of 5-7; Dissatisfied = a score of 1-3.

Total job satisfaction correlated significantly ($p < 0.01$) with age ($r = .21$) and length of time qualified ($r = .50$) but not with total number of children, length in post, length employed by the organisation or hours worked in the previous week (see Table 7.4).

Table 7.4: Pearson's correlations showing the relationship between the subscales of the job satisfaction measure and personal and job demographics for management and support staff in study sample (N= 209).

Job satisfaction	1	2	3	4	5	6
Total	.21*	.14	.50*	-.12	-.09	-.03
Intrinsic	.26**	.14	.50*	-.05	.02	.02
Extrinsic	.14	.13	.45*	-.18	-.18	-.07
Job itself intrinsic	.25**	.13	.55*	-.03	.07	.05
Working conditions extrinsic	.19*	.13	.54*	-.13	-.13	-.12
Employee relations	.16	.12	.36	-.15	-.11	-.01
Overall	.14	.09	.36	-.19*	-.12	-.00

Key: 1 - Age, 2 - Number children living at home, 3 - Length qualified, 4 - Length in post, 5 - Length employed by the organisation, 6 - Hours worked in the past week; * = $p < 0.01$, ** = $p < 0.001$

There were 102 individuals who obtained a total score on the job satisfaction measure greater than or equal to 68 (i.e. greater than the group mean) indicating higher than the average job satisfaction. They did not differ from the overall group in terms of gender, age, marital status, academic level, partners working status, number of children at home, job base, full-time versus part-time working, shift working, length employed by the organisation, length in post, and hours worked in the previous week. High job satisfaction scorers had however been qualified significantly (t (df 230) = 5.1, $p < 0.001$) longer than the overall group.

7.6.3 Correlations between job satisfaction and stressors

Job satisfaction was highly significantly ($p < 0.001$) associated in a negative direction with all of the subscales of the Sources of Pressure in Your Job Scale that were administered. Issues to do with career and achievement, i.e. being over or under-promoted, being undervalued, having to change jobs for career progression, etc., were most strongly associated ($r = -.54$) with intrinsic aspects of job satisfaction. Issues to do with relationships with other people, i.e. managing/ supervising others, feeling isolated, coping with office politics, etc., and career and achievement were equally

strongly associated ($r = -.52$) with extrinsic aspects of the job. The more time that was spent in managerial duties, the more satisfying intrinsic aspects of the job were reported ($r = .22$, $p < 0.01$). However, overall work demands were not associated significantly with total job satisfaction (see table 7.5).

Table 7.5: Pearson's correlations showing the relationship between the subscales of the job satisfaction measure and the subscales of the Sources of Pressure in Your Job Scale and the Work Demands Scale for management and support staff in study sample (N= 209).

	SPJ total	FI	MR	RO	CA	WDS total	A/T	C	M
Total	-.51 **	-.38 **	-.39 **	-.44 **	-.56 **	.11	.01	.10	.12
Int	-.41 **	-.28 **	-.29 **	-.31 **	-.54 **	.20 *	.06	.12	.22 *
Ext	-.55 **	-.43 **	-.44 **	-.52 **	-.52 **	.01	-.04	.06	.01
JI	-.35 **	-.24 **	-.24 **	-.26 **	-.46 **	.23 *	.09	.12	.24 **
WC	-.54 **	-.44 **	-.43 **	-.52 **	-.49 **	.01	-.03	.10	-.04
ER	-.49 **	-.34 **	-.38 **	-.42 **	-.56 **	.08	-.02	.06	.11
Overall	-.45 **	-.31 **	-.39 **	-.41 **	-.46 **	.13	.06	.17	.03

Key: * $p < 0.01$, ** $p < 0.001$; Total - Total job satisfaction; Int - Intrinsic job satisfaction; Ext - Extrinsic job satisfaction; JI - Job itself; WC - Working conditions; ER - Employee relations; Overall - Overall job satisfaction; SPJ total - Sources of pressure in your job total score; FI - Factors intrinsic to the job; MR - The managerial role; RO - Relationships with other people; CA - Career and achievement; WDS total - Work demands scale total score; A/T - Administrative and technical; C - Clinical; M - Managerial.

As regards generic stressors (see Table 7.6), total job satisfaction was highly significantly ($p < 0.001$) and positively associated with control ($r = .32$), role ambiguity ($r = .42$) and job future ambiguity ($r = .50$). It was negatively associated with role conflict ($r = -.41$, $p < 0.001$) and non-occupational concerns ($r = -.24$, $p < 0.01$). It would appear therefore that higher job satisfaction is experienced when there is greater job-related control, higher levels of role clarity, greater certainty in relation to the future of one's job, less role conflict and fewer non-occupational concerns. Both intrinsic and extrinsic aspects of the job were most strongly associated with job future ambiguity.

Table 7.6: Pearson's correlations showing the relationship between the subscales of the job satisfaction measure and the generic stressor measures for the management and support staff in study sample (N= 209).

	U	P	C	RC	RA	JFA	Non-occ.
Total job satisfaction	.09	.10	.32 **	-.41 **	.42 **	.50 **	-.24 *
Intrinsic	.09	.05	.40 **	-.34 **	.37 **	.47 **	-.23 *
Extrinsic	.09	.14	.21 *	-.43 **	.42 **	.49 **	-.22 *
Job itself	.08	-.06	.42 **	-.28 **	.28 **	.41 **	-.20 *
Working conditions	.05	.11	.17	-.38 **	.38 **	.47 **	-.20 *
Employee relations	.09	.16	.28 **	-.42 **	.43 **	.49 **	-.24 *
Overall job satisfaction	.08	.02	.23 *	-.32 **	.34 **	.36 **	-.33 **

Key: * $p < 0.01$, ** $p < 0.001$; U - Understanding of events; P - Predictability of events; C - Control over events; RC - Role conflict; RA - Role ambiguity; JFA - Job future ambiguity; Non-occ. - Non-occupational stressors.

7.6.4 Correlations between job satisfaction and mediators/moderators

Table 7.7 shows the relationships between coping, social support, positive/negative affectivity and job satisfaction. Higher reported availability of social support was associated with greater job satisfaction ($p < 0.001$) and this was more strongly associated with extrinsic aspects ($r = .64$) than intrinsic aspects ($r = .52$). Positive affectivity was highly significantly ($p < 0.001$) associated with all aspects of job satisfaction particularly intrinsic aspects ($r = .41$). Negative affectivity was also highly significantly associated ($p < 0.001$) with all aspects of job satisfaction but in a negative direction and most strongly with extrinsic aspects ($r = -.39$). This would indicate that higher job satisfaction was associated with higher levels of social support, greater positive affectivity and lower negative affectivity. Interestingly, no aspect of job satisfaction was associated with coping.

Table 7.7: Pearson's correlations showing the relationship between the subscales of the job satisfaction measure and the mediator/moderator and strain measures for management and support staff in study sample (N= 209).

	Cop total	SS total	PA	NA	Psy	EE	DP	PAc	GHQ	Sick
Total	-.01	.62 **	.39 **	-.37 **	-.39 **	-.54 **	-.33 **	.24 *	-.36 **	-.11
Int	.01	.52 **	.41 **	-.30 **	-.33 **	-.45 **	-.29 **	.26 **	-.28 **	-.13
Ext	-.02	.64 **	.34 **	-.39 **	-.42 **	-.56 **	-.33 **	.20 *	-.39 **	-.08
JI	.05	.42 **	.39 **	-.26 **	-.32 **	-.41 **	-.27 **	.27 **	-.24 *	-.12
WC	-.03	.64 **	.29 **	-.37 **	-.42 **	-.50 **	-.30 **	.20 *	-.36 **	-.07
ER	-.01	.60 **	.38 **	-.35 **	-.35 **	-.52 **	-.32 **	.20 *	-.36 **	-.11
O'all	.07	.51 **	.39 **	-.39 **	-.36 **	-.48 **	-.29 **	.28 **	-.38 **	-.11

Key: * $p < 0.01$, ** $p < 0.001$; Total - Total job satisfaction; Int - Intrinsic job satisfaction; Ext - Extrinsic job satisfaction; JI - Job itself; WC - Working conditions; ER - Employee relations; O'all - Overall job satisfaction; Cop total - Coping total score; SS total - Social support total score; PA - Positive affectivity; NA - Negative affectivity; Psy - Pysom; EE - Emotional exhaustion; DP - Depersonalisation; PAc - Personal accomplishment; GHQ - General health questionnaire; Sick - Sick leave in previous six months.

7.6.5 Correlations between job satisfaction and strains

As can be seen in Table 7.7, total job satisfaction was highly significantly ($p < 0.001$) associated with physical stress symptomatology, emotional exhaustion, depersonalisation, and psychological distress in that the higher the score on these measures the lower the reported job satisfaction. Personal accomplishment was less strongly associated with total job satisfaction ($p < 0.01$) and in a positive direction. There were no significant correlations between sick leave over the previous six months and any aspect of job satisfaction. Both intrinsic and extrinsic aspects of job satisfaction were most strongly associated with emotional exhaustion ($r = -.45$ and $-.56$ respectively).

7.6.6 Predicting job satisfaction

Hierarchical regression analysis was used to investigate the relative contribution of demographic variables, profession specific stressors, generic stressors, mediators/

moderators and strains to job satisfaction. The value for adjusted R^2 (the corrected estimate of the proportion of the variance of the dependent variable accounted for by regression) is reported. The values for β represent the change in the dependent variable (expressed in standard deviation units) that would be produced by a positive increment of one standard deviation in the explanatory variable. Regression ANOVA tests whether there really is a linear relationship between the variables and scatterplots of the standardised residuals against the standardised predicted values showed no obvious pattern thereby confirming that the assumptions of linearity and homogeneity of variance had been met.

Table 7.8 indicates that 61.1% of job satisfaction in the overall study sample was accounted for by the explanatory variables listed. Age accounted for 4.8% of the variance, with the profession specific and generic stressors adding another 41.6%. Non-occupational concerns did not add to the variance accounted for. Mediators/moderators contributed an additional 13.7%. Strains added only a further 1.0%. The Sources of Pressure in Your Job scale total made the greatest contribution to job satisfaction ($\beta = -0.320$, $p < 0.001$) with social support total also contributing highly significantly ($\beta = 0.280$, $p < 0.001$). The regression ANOVA was significant ($F(15,173) = 20.7$, $p < 0.001$). Thus job satisfaction in the overall study sample was increased by more job -related control, greater available social support, higher positive affectivity and being older, and was decreased by higher reported job stressors and greater job future insecurity.

Because there was a significant difference in total job satisfaction between management ($N = 27$) and ancillary/trade staff ($N = 74$), separate regression analyses

Table 7.8: Hierarchical regression analysis of job satisfaction

Step	B	Multiple R	Adjusted R ²
<i>Overall group</i>			
1. <u>Demographics</u>			
Age	.2*	.23	.048
			Overall F (1,187) = 10.5*
2. <u>Stressors</u>			
Sources of pressure in your job scale total	-.3**	.69	.464
Control	.2**		
Role conflict	-.2		
Role ambiguity	.1		
Job future ambiguity	.2*		
			Overall F (6,182) = 28.1**
3. <u>Non-occupational concerns</u>			
	-.0	.69	.461
			Overall F (7,181) = 24.0**
4. <u>Mediators/Moderators</u>			
Social support total	.3**	.79	.601
Positive affectivity	.2**		
Negative affectivity	-.1		
			Overall F (10,178) = 29.4**
5. <u>Strains</u>			
Psyssom	.0	.80	.611
Emotional exhaustion	-.1		
Depersonalisation	-.1		
Personal Accomplishment	.1		
General Health Questionnaire	.0		
			Final F (15,173) = 20.7**
<i>Management</i>			
1. <u>Stressors</u>			
Sources of pressure in your job total	-.38	.83	.605
Understanding	.13		
Control	-.04		
Role conflict	-.30		
Role ambiguity	.29		
			Overall F (5,18) = 8.04**
2. <u>Mediators/Moderators</u>			
Social support total	.34	.87	.649
Positive affectivity	-.03		
			Final F (7,16) = 7.09*
<i>Ancillary/trade</i>			
1. <u>Stressors</u>			
Sources of pressure in your job total	-.20	.22	.184
Role ambiguity	.17		
Job future ambiguity	.36		
			Overall F (3,64) = 6.03*
2. <u>Mediators/Moderators</u>			
Social support total	.33*	.53	.479
Positive affectivity	.36**		
Negative affectivity	-.15		
			Overall F (6,61) = 11.29**
3. <u>Strains</u>			
Psyssom	.06	.58	.495
Emotional exhaustion	-.27		
Depersonalisation	-.11		
Personal accomplishment	.15		
General Health Questionnaire	.06		
			Final F (11,56) = 6.98**

Key: * p<0.01, ** p<0.001.

were conducted on the significant correlates for these two groups (see Table 7.8). These analyses are strictly for illustrative purposes only as, due to the very small sample sizes particularly for the managers, the ratio of variables to cases has been substantially under-achieved. This therefore comprises the statistical validity of the procedure and consequently the results should be treated with the utmost caution. For the management group, 64.9% of the variance was accounted for by a combination of five stressor measures and two mediator/moderator measures. The only measure that did not appear in the overall group analysis was job-related understanding. The percentage accounted for in the ancillary/trade group, i.e. 49.5%, was much less than for the management group. There were no measures that did not appear in the overall group analysis. The variables of understanding, control, and role conflict appeared in the management analysis and did not feature in the ancillary/trade analysis whilst the variables of job future ambiguity, negative affectivity, Psysom, emotional exhaustion, depersonalisation, personal accomplishment and general health questionnaire appeared in the latter and not the former.

7.7 Discussion

This study aimed to assess the levels of job satisfaction in management and support staff, as measured by the Warr *et al.* (1979) job satisfaction measure, in a sample of these occupational groups working in a Scottish health service Trust which provided acute and continuing care psychiatric services in a range of hospital and community bases. In addition, the study aimed to identify the correlates of reported job satisfaction from a range of measures of work-related stressors, non-occupational stressors, coping styles, social support, personality, and physical, psychological and

behavioural strains. Combinations of significant correlates were then used to determine the predictors of job satisfaction.

The cross-sectional design adopted in the present study has its weaknesses as outlined in previous Chapters, however a longitudinal design was beyond the scope of the study. Self-report data collection too has limitations as previously outlined but is also the most commonly utilised methodology in the field of stress research. The sample size was designed to be representative and to permit generalisability of findings, and all participants came from one employing Trust to minimise any confounding factors in this regard. The response rate of 39.7%, although moderate, is in keeping with that of studies with a similar methodology (e.g. Borrill *et al.*, 1998). Finally, the results of this study can only be viewed in relation to staff working in psychiatric settings and cannot be generalised to other locations such as acute or general medicine.

Results indicated that the overall study sample reported moderate levels of total job satisfaction. The overall group scores were lower than the original normative sample of Warr *et al.* (1979) however the managers in the study did not differ significantly from a normative graduate sample and the ancillary/trade staff in the study did not differ significantly from the combined normative manual workers sample. Managers reported significantly higher levels of total job satisfaction than ancillary/trade staff, particularly in relation to 'intrinsic' aspects of their jobs. Caplan *et al.* (1980), in a major study of stress in blue and white collar occupations, found that occupations which were classed as 'unskilled blue collar' were the highest on job dissatisfaction. Long (1998) found that clerical workers were significantly less satisfied than managers. Overall, the study sample were most satisfied and dissatisfied with

'extrinsic' aspects of their jobs, for example working conditions and employee relations respectively. The overall group did not report any differences in job satisfaction in relation to a range of personal and job demographics examined.

There was a significant positive correlation between total job satisfaction and age. This is in keeping with other studies such as Doering *et al.* (1983) and Clark *et al.* (1996) although the correlation is not usually high. The literature debates whether the pattern of association between job satisfaction and age is U-shaped (e.g. Kacmar & Ferris, 1989), i.e. the youngest and oldest workers having equivalent levels of satisfaction, or J-shaped (e.g. Warr, 1996b), i.e. the oldest workers having the highest levels of satisfaction. Age is usually associated with higher income and higher graded jobs and these may partly account for the association with age and job satisfaction. Higher levels of total job satisfaction in the study sample were also positively associated with length of time qualified which is a variable that covaries with age.

Sources of pressure in the job were negatively associated with job satisfaction for the study sample. This is in keeping with other studies such as De Jonge *et al.* (2001) who reported a negative relationship with a measure of job demands and job satisfaction in health care workers. More specifically, participants in their study reported positive associations between job satisfaction and job-related control. This replicated the findings of others such as Sargent & Terry (1998) who reported a significant positive relationship between aspects of control, particularly task control, and job satisfaction of university administrative staff. In the present study, higher levels of role ambiguity and role conflict were associated with lower levels of job satisfaction, again in keeping with the findings of others (e.g. Sargent & Terry, 1998). Role conflict in

particular has been consistently found to be negatively correlated with job satisfaction (Burke, 1988). Feelings of job insecurity among certain subgroups of support staff in the UK health service are more common now than in the past as a result of the regular cycles of change instigated by succeeding governments. Higher levels of job insecurity in the present study were associated with lower levels of job satisfaction. The strength of the association was very similar to that found by Lim (1996) in a study of university graduates. As regards stressors in life outside work, the more non-occupational concerns reported the lower the recorded job satisfaction in the present study. Tait *et al.* (1989) found that the average correlation between job and life satisfaction was 0.44 suggesting that there is a 'spillover' effect from one to the other.

The fact that some of the mediator/moderator variables examined were associated with the outcome variable, i.e. job satisfaction, confirms the generally accepted assertion that there is not necessarily a direct link between stressors and strains. One of the most closely examined intervening variables, social support, was also assessed in the present study. It was found to have a positive association with job satisfaction more so in relation to extrinsic aspects of the job than for intrinsic aspects. Lim (1996) found a strong relationship between work-based social support and job satisfaction and concluded that the relationship between job insecurity and job dissatisfaction was stronger for those who perceived low levels of work-based support. Many authors have claimed that relationships with colleagues at work are critical to job satisfaction (e.g. Cartwright & Cooper, 1997; De Jonge & Schaufeli, 1998) and indeed De Jonge *et al.* (2001) have proposed that workplace social support is a causally dominant factor with regard to job satisfaction in healthcare workers.

As regards the role of personality, in the present study negative affectivity was negatively associated with job satisfaction and positive affectivity was positively associated with job satisfaction. In other words, those with higher negative affectivity and lower positive affectivity had a greater tendency to report lower job satisfaction. Warr (1996a) reported that overall job satisfaction correlates moderately positively with trait positive affectivity and moderately negatively with trait negative affectivity. It has also been recorded that trait positive affectivity and negative affectivity are more highly associated with intrinsic satisfaction than with extrinsic satisfaction (Judge & Locke, 1993; Watson & Slack, 1993). This was true only for positive affectivity in the present study. It has been further argued that core self-evaluations such as self-esteem, self-efficacy, locus of control, etc., have a relationship with job satisfaction only part of which is mediated by job characteristics (Judge *et al.*, 2000). Moreover, in addition to the role of personality in job satisfaction, it has been postulated that approximately thirty percent of the variance in overall job satisfaction is attributable to genetic factors (Arvey *et al.*, 1989; Arvey *et al.*, 1994). This would suggest that only a proportion of the variance in job satisfaction may be amenable to change.

Job satisfaction in the present study was negatively associated with reported physical stress symptomatology, emotional exhaustion, depersonalisation and psychological distress. It was positively associated with feelings of personal accomplishment. The strongest associations between job satisfaction and the elements of burnout have been found previously with emotional exhaustion and depersonalisation (Schaufeli, 1999). Job satisfaction and indices of strain have been shown typically to correlate over 0.30 (Kasl, 1978).

There were no significant associations between any of the aspects of job satisfaction and the self-reported total duration of absence in the six months previous to the completion of the questionnaire. This is in keeping with other findings such as those of Farrell & Stamm (1988) who reported a correlation of -0.13 between overall job satisfaction and total time lost, this being identical to the level of correlation found in the present study. Our findings are also in keeping with Clegg (1983) who found no support for the existence of a causal relationship between job satisfaction and absence in engineering employees.

Using hierarchical regression analysis, 61.1% of the variance in job satisfaction for the overall group was accounted for. In particular, a combination of age, job demands, job-related control, job insecurity, social support and positive affectivity was pertinent. Given that there was a significant difference in job satisfaction between management and ancillary/trade staff, separate regression analyses were conducted for these two groups however, given the small sample sizes, these can only be considered illustrative. Any differences in predictor variables may have relevance when targeting specific groups and specific areas for intervention.

7.8 Conclusion

In order to enhance job satisfaction a number of levels of intervention may be required. Organisations that make an effort to assess the risks to aspects of job-related well-being, including job satisfaction, may well find that they have a psychologically healthier workforce as a result. Borrill *et al.* (1998) recommended a series of organisationally oriented interventions for managers in the health service including clarifying objectives and responsibilities, reviewing decision-making and

communication processes, and improving support mechanisms. Sargent & Terry (1998) recommended improving task control and enhancing involvement for administrative employees but emphasised the need to match interventions to individual employees. De Jonge *et al.* (2001) recommended worksite interventions aimed at decreasing or stabilising job demands and increasing social support as useful starting points to improve employee well-being.

Murphy (1988) reported on 30 studies that evaluated stress management in work settings. Nine of these assessed the effects on job satisfaction. Five of these nine found a significant increase in job satisfaction, three found no effects, and one found a significant decrease following stress management. Murphy postulated that the effects of stress management were likely to be a function of the content of the stress education component, i.e. focusing on work-related issues as opposed to general life stressors, and the source and level of stress in the organisation (improving awareness and not addressing the source). Studies on the effects of team building interventions have shown improvements in job satisfaction which do not translate into improved performance (West, 1996). Workplace counselling has had mixed success in targeting work-related well-being such as job satisfaction (Hardy & Barkham, 1999) and it has also been reported that managers, in particular, are poor at recognising their own stress and are reluctant to seek help when they do (Maynard, 1996).

However, it would appear that satisfaction with work is a function both of the work itself and of the personality of the individual. It therefore follows that interventions aimed just at modifying aspects of the job alone may have a limited effect on job satisfaction. Judge & Locke (1993) have suggested that job satisfaction may be

increased by reducing the degree to which employees think dysfunctionally about, not only their jobs, but their lives in general.

CHAPTER 8:

**The Moderating Effect of Social Support in Health Service
Personnel**

8.1 **Abstract**

Social support has long been considered an important element in the relationship between stressors and strains with evidence of both direct and moderating effects. It has been shown to have ramifications for physical and psychological ill health, burnout and job satisfaction. Less is known of the effects of social support on the stressor-strain relationship in health service personnel. This paper attempts to address some of the gaps in knowledge in this regard.

Of a randomly selected sample of 1,321 nurses, medics and professions allied to medicine from one Scottish health service Trust, 660 completed a questionnaire which included the House and Wells (1978) social support measure as a possible moderating variable. The stressors examined were role conflict, role ambiguity and job future ambiguity and the strains were job satisfaction, emotional exhaustion and psychological distress.

The respondents reported moderate levels of social support. The study sample had significantly higher scores on social support than a comparative group of staff from a private sector organisation. Only 20.5% of the study sample could be categorised as having low levels of work support and they differed significantly from those reporting high levels of work support in terms of tenure, academic level, job base and shift working. Only 17.1% of the study sample could be categorised as having low levels of non-work support and they differed significantly from those reporting high levels of non-work support in terms of marital status and partner's working status.

Hierarchical regression analyses revealed that work support only moderated the relationship between role ambiguity and job satisfaction. Work support and, to a lesser extent, non-work support did have direct effects however on most of the strains examined. The implications of the findings in terms of an approach to intervention aimed at enhancing social support in the workplace to minimise the risk of strains in health service personnel are discussed.

8.2 Introduction and literature review

“Human interaction affects biological functions and well-being from both physiological and psychological perspectives” (Joplin *et al.*, 1995).

Supportive relationships and their influence on psychological well-being is a well researched area (Sutherland & Cooper, 1990d). House & Wells (1978) stated that individuals may be said to have social support when “they have a relationship with one or more other persons which is characterised by relatively frequent interactions, strong and positive feelings, and especially perceived ability and willingness to lend emotional and/or instrumental assistance in times of need” (p. 9).

Social support has been shown to be negatively associated with job stress (Beehr *et al.*, 2000; Smith *et al.*, 2000) and positively associated with job performance (Deeter-Schmelz & Ramsey, 1997). A lack of social support, particularly support from supervisors, has been associated with burnout (Leiter & Maslach, 1988; Schaufeli, 1999), job dissatisfaction (De Jonge & Schaufeli, 1998) and increased risk of psychiatric disorder (Stansfield *et al.*, 1999).

Relationships at work, both between supervisors and employees and amongst co-workers, are the main sources of support in the workplace (Sutherland & Cooper, 1990d). Many authors (e.g. French & Caplan, 1973; Beehr & McGrath, 1992) have reported that high levels of support from co-workers have the effect of reducing job strain, i.e. a moderating effect. The literature suggests that spousal and family support may have both moderating (Cohen & Wills, 1985) and direct effects (Burke & Weir, 1977) on the experience of job-related stress.

Interpersonal relationships at work are listed as one of the nine work characteristics considered to be hazardous by Cox (1993). Working with non-supportive supervisors and colleagues is more likely to be associated with reported stressors at work (McLean, 1979) and job dissatisfaction (Kahn *et al.*, 1964). Other authors have indicated that spousal and family support can have detrimental as well as beneficial effects by reinforcing sick role behaviour (Rook, 1985), or encouraging maladaptive coping strategies (Kobasa & Puccetti, 1983) for instance.

House (1981) proposed four main forms of support, i.e. emotional, instrumental, appraisal and informational. Probably the most commonly recognised form is that of emotional support which is generally understood as primarily coming from family and friends and includes empathy, concern, etc. Instrumental support tends to be more practical and includes the provision of money, time, etc.

The two main models of the effects of social support in the field of occupational stress are the moderating and the main effect models. The moderating model proposes that social support acts as a third variable influencing the relationship between a

predictor variable, such as job insecurity, and an outcome variable, such as job satisfaction, (Lindley & Walker, 1993; Lim, 1996). The main effects model would propose that, for instance, higher levels of social support are directly associated with better mental health (Stansfield *et al.*, 1999). It would appear that there are a number of other variables such as gender, the source of the support, the type of stress and the nature of the observed outcome which determine whether a main or moderating effect is in operation (Fenlason & Beehr, 1994). The current research evidence appears stronger for a main effect of social support (Ross *et al.*, 1989; Cummins, 1990; Beehr *et al.*, 2000) with moderating effects being more modest and selective (Beehr *et al.*, 1990; Sutherland & Cooper, 1990d).

The relationships between social support and a range of stressors and strains have been quite widely examined in the research literature. Role conflict, role ambiguity and job insecurity have all been found to have a wide range of correlates including social support (House & Wells, 1978). Social support has been associated with the strains of low job satisfaction (House & Wells, 1978; Jackson & Schuler, 1985; Sutherland & Cooper, 1990d), burnout (Duquette *et al.*, 1994; Schaufeli, 1999) and psychological distress (Caplan, 1994; Borrill *et al.*, 1996; Ramirez *et al.*, 1996).

Investigations of the role of social support in health service employees are less common than those of other occupational groups. Many of the existing studies have been conducted outwith the UK and therefore the results cannot necessarily be generalised to the United Kingdom. Often only a very limited healthcare sample is assessed, only one gender is included, the sample is not a randomly selected one, the sample size is small, or the response rate is low (Dara Ogus, 1990; Turnipseed, 1994;

Barber & Iwai, 1996; Kennedy & Grey, 1997; Sparks & Cooper, 1999; Zellars & Perrewe, 2001). Quite a few studies lack any standardised measures of social support while others have only examined one form of support such as emotional support from co-workers (Cushway *et al.*, 1996; Alexander, 1997; Quine, 1998; Zellars & Perrewe, 2001). Methods of analysis vary greatly with some studies using only a descriptive approach (McKenna & Scholl, 1985; Quine, 1998) rather than more sophisticated statistical techniques.

The literature on social support in healthcare employees confirms significant associations with a variety of stressors and strains. Some studies report relationships at work as more stressful for healthcare employees than the OSI comparative group (Rees & Cooper, 1992). The evidence for moderating effects of social support are specific, for example in the relationship between occupational stress or work demands and depression (Revicki & May, 1985; Quine, 1998). Other studies have shown a moderating effect of age on the relationship between supervisor support and emotional exhaustion (Turnipseed, 1994). In the very few longitudinal studies undertaken it has been reported that job satisfaction was determined by job demands and workplace social support one year previously, after controlling for gender, age and negative affectivity (De Jonge *et al.*, 2001).

The measure of social support devised by House & Wells (1978) is one of the earliest in the literature and has since been widely used (Deeter-Schmelz & Ramsey, 1997; Swanson & Power, 2001). Tardy (1988) has stated that the House and Wells model is “perhaps the most useful typology of support content” in that it attempts to assess both sources and types of support both from the home and work environments. There

is a substantial body of research evidence on the reliability and validity of the measure (House & Wells, 1978; House, 1981; Russell *et al.*, 1987).

8.3 The study rationale

In summary therefore, it would appear that there is a relative dearth of studies looking at the role of social support in the stressor-strain relationship for health service employees. The present study aimed to address this research gap and rectify some of the methodological inadequacies of previous studies by utilising a sound and comprehensive theoretical perspective in a health service sample that has hitherto been relatively under-researched using such an approach. Specifically, this study aimed to investigate the relationship between non-occupational concerns and the work stressors of role ambiguity, role conflict and job future ambiguity, and the strains of emotional exhaustion, job satisfaction and psychological distress. It was anticipated that higher levels of work stressors would be associated with greater emotional exhaustion, less job satisfaction and greater psychological distress. It was also expected that more non-occupational concerns would be associated with greater psychological distress but not necessarily greater emotional exhaustion or less job satisfaction. It was anticipated that there may be an interaction effect between work support and work stressors, whereby work support moderated the impact of work stressors on strains. The anticipated interaction effect between non-work support and work stressors was more selective, i.e. only in relation to the moderation of work stressors on psychological distress. A range of stressors and strains were assessed and a multivariate analysis was undertaken.

8.4 Method

8.4.1 Procedure

The study sample was drawn from nursing, medical and P.A.M.'s staff employed in a Scottish health service Trust which provided both acute and continuing care psychiatric services in a range of hospital and community bases. A questionnaire was sent to the home addresses of staff with assurances regarding the anonymous, voluntary and confidential nature of the responses. Participants returned their completed questionnaire to the researchers in a pre-paid envelope. A standard reminder letter was sent to the entire study sample two weeks after the initial mail shot.

8.4.2 Participants

The selection methodology is outlined in detail in section 4.3.1 of Chapter 4. Nursing, Medical and P.A.M.'s staff were selected from all parts of the Trust using a stratified random sampling procedure. Of the original sample size of 1,321 (i.e. 69.1% of the total nursing, medical and P.A.M.'s employee population at the time of the study), 660 participated giving a response rate of 49.96%. The two core groups of staff, i.e. (i) nurses and (ii) medics and P.A.M.'s varied in their response rates (48.8% and 54.3% respectively). A small amount of missing data exists for some of the variables and therefore the sample size on a few occasions may be less than 660.

8.4.3 Measures

The following measures were selected on the basis of the existing literature to cover the variables of interest. They are described in greater detail in Chapter 4.

(i) Demographic Information : Personal details were obtained on gender, age, marital status, academic level reached, partner's working status and number of children living at home. Job-related information was recorded on professional group, base, length of time professionally qualified, full-time or part-time working, type of shift system worked, length in current post, length employed by the organisation in total, hours worked in the previous week, number of days sick and number of episodes of sickness in the previous six months.

(ii) Stressors:

a) *Role conflict* was assessed using the three-item Role Conflict measure of Caplan *et al.* (1980) with the items used being modified for the purposes of this study.

Reliability of the scale, calculated using Cronbach's alpha, was .87.

b) *Role ambiguity* was assessed using the four-item Role Ambiguity measure designed by Caplan *et al.* (1980). Cronbach's alpha for the scale was .84.

c) *Job future ambiguity* was measured using the four-item Job Future Ambiguity questionnaire designed by Caplan *et al.* (1980). Scale reliability, using Cronbach's alpha, was .79.

d) *Non-occupational stressors* were assessed using a purpose-designed measure. This consisted of five items designed to tap the major life areas of housing, finances, spouse/partner relationship, child care, and leisure/social interests. Individuals were asked to indicate with a 'yes' or 'no' whether they had any concerns/worries in these areas. Cronbach's alpha for the scale was .49.

(iii) Potential moderator:

a) Social support was assessed using the House & Wells (1978) *Social Support measure*. This thirteen item scale (with a possible range of scores from 0 to 39) assessed the degree of emotional and instrumental (i.e. practical) support available

from four different sources, namely work supervisors, co-workers, spouses/partners and relatives/friends (possible scores ranges 0-18, 0-9, 0-6 and 0-6 respectively).

Items 1-10 were rated on a four-point scale from 'not at all' to 'very much' and items 11-13 were rated on a four-point scale from 'not at all true' to 'very true'. The scale can be sub-divided into two subscales namely 'Emotional' and 'Instrumental' (possible range of scores 0-30 and 0-9 respectively). The higher the score the more emotional and instrumental social support available. For the purposes of this study the scale was further subdivided into 'work support' with 9 items and a possible score range of 0-27, and 'non-work support' with 4 items and a possible score range of 0-12. 'Work support' therefore consisted of all items relating to supervisors and co-workers while 'non-work support' related to partners and relatives/friends.

Reliabilities, using Cronbach's alpha, for work support was .88 and for non-work support was .81.

(iv) Strains:

a) Emotional exhaustion was assessed using the relevant subscale of the twenty-two item *Maslach Burnout Inventory* (MBI - Maslach & Jackson, 1981b, 1993). The emotional exhaustion (emotional resources are depleted) subscale consists of 9 items with a possible score range of 0-54. Cronbach's alpha for emotional exhaustion was .88.

(b) Psychological distress was assessed using the twelve item *General Health Questionnaire-12* (Goldberg, 1992). The reliability of the scale (Cronbach's α) was .91.

(c) *Job satisfaction* was assessed using the Warr, Cook and Wall (1979) sixteen item measure. Cronbach's alpha for the scale was .88.

8.5 Analysis

Analysis of the data was conducted using a range of statistical procedures via the SPSS statistical package (version 10.0 for Windows, 1999, SPSS Inc., Chicago).

Differences between sample means and normative data were examined using t tests.

Analysis of variance (with post hoc Scheffé), t tests and Chi² were used to examine differences in levels of support on a range of personal and job demographics. The strength and direction of relationships between variables were determined using Pearson's correlation coefficients.

A number of hierarchical regression analyses were carried out for each strain measure to examine the role of work stressors, non-occupational concerns and social support in predicting strains. Interaction terms were the product of the two independent variables in question, e.g. role ambiguity and work support, entered as the last step on each regression.

8.6 Results

8.6.1 Demographic characteristics of the study sample

The personal and job demographics of the sample are outlined in Table 8.1. The mean age of the sample was approximately 40 years with a preponderance of females (85.9%). The majority of staff in the sample were either married (67.4%) or cohabiting (10.6%) with partners who were working full-time (68.8%).

Approximately one third of the staff had no children living at home (34.8%). Of those who had children, the commonest numbers were two (28.2%) or one (20.5%). There was a spread of academic achievement amongst the group with 22.4% having qualifications to the O grade/GCSE level and 17.6% to the A level/Higher/SYS level.

Table 8.1: Personal and job demographics of the study sample (N=660)

	N (%)		N(%)	
Gender:		Professional group:		
Male	85 (12.9)	Nurse	507 (76.8)	
Female	567 (85.9)	Medic/P.A.M.	148 (22.5)	
Marital Status:		Job base:		
Single	67 (10.2)	Community	160 (24.2)	
Cohabiting	70 (10.6)	Hospital	432 (65.5)	
Married	445 (67.4)	Hospital + Community	2 (0.3)	
Separated	24 (3.6)	Working pattern:		
Divorced	38 (5.8)	Full-time	425 (64.4)	
Widowed	10 (1.5)	Part-time	225 (34.1)	
Academic status:		Shift worker:		
No formal qualifications	88 (13.3)	Yes	314 (47.6)	
O grade/GCSE	148 (22.4)	No	335 (50.8)	
A level/Higher/SYS	116 (17.6)	Shift type:		
HND/HNC	65 (9.8)	Flexible	48 (7.3)	
Degree	162 (24.5)	Regular	76 (11.5)	
Higher degree	61 (9.2)	Irregular	187 (28.3)	
Partner's working status:				
Working full-time	454 (68.8)			
Working part-time	32 (4.8)			
Unemployed	12 (1.8)			
Unable to work	15 (2.3)			
Retired	8 (1.2)			
Not applicable	127 (19.2)			
Children living at home:				
0	230 (34.8)			
1	135 (20.5)			
2	186 (28.2)			
3	46 (7.0)			
4	13 (2.0)			
5	1 (0.2)			
Age (years)	Mean(SD) 39.8 (9.5)	Range 20-65	Hours worked in previous week Mean(SD) 33.4 (14.7)	Range 0-146
Length qualified (years)	Mean(SD) 15.2 (9.4)	Range 0.3-44	Days sick in previous 6 months Mean(SD) 5.2 (15.8)	Range 0-130
Length employed by organisation (years)	Mean(SD) 12.4 (8.2)	Range 0.2-35	Episodes sickness in previous 6 months Mean(SD) 0.5 (0.8)	Range 0-5
Length in post (years)	Mean(SD) 6.7 (6.6)	Range 0.1-28		

A large percentage of staff had degree qualifications (24.5%). On average the staff in the study had been qualified for 15 years, had been in the employ of the organisation for 12 years and had been in their current post for 7 years. The two main groups were represented as 76.8% nurses and 22.5% medical and P.A.M.'s staff. The majority of staff were based in hospitals (65.5%) rather than in the community (24.2%). Most worked full-time (64.4%) with an irregular shift pattern being the most common (28.3%). On average the hours worked in the week previous to completion of the questionnaire were 33 with a very wide range (0-146). Participants reported a mean of 5.2 days sick in the six months prior to completion of the questionnaire, again with a wide range (0-130), and these accounted on average for 0.5 episodes (range 0-5).

8.6.2 Levels of social support in the study sample

Overall, the study sample obtained a mean score for total social support of 27.0 (possible range 0 to 39), i.e. above the scale midpoint but closer to the midpoint than to the maximum, indicating a moderate degree of social support (see Table 8.2). When compared with norms from a private sector organisation (comprising 176 employees of all grades from a UK public utility company) the staff in the study sample reported significantly higher levels of emotional ($p < 0.001$) and instrumental ($p < 0.001$) support from all sources with the exception of Spouse/Partner. When compared to another health-related organisation in the same geographical region (comprising 107 employees of primarily administrative and managerial grades) however, the only significant difference ($p < 0.001$) was in relation to support from Spouse/Partner with the study sample reporting lower levels of support.

Table 8.2: Mean scores (SD) on the social support measure for the study sample (N=660) in comparison with normative data.

Social support	Study sample N = 660	Item mean	Private sector N = 176	Other health-related N = 107	Difference between study sample and other groups
			a	b	t
Total score	27.0 (6.8)	2.1	25.7 (8.2)	27.7 (7.0)	a 2.15 b 0.99
<i>Types of support</i>					
Emotional	20.8 (5.3)	2.2	17.8 (5.7)	21.5 (5.2)	a 6.56** b 1.27
Instrumental	6.2 (2.0)	2.1	5.6 (1.9)	6.3 (2.2)	a 3.59** b 0.48
<i>Sources of support</i>					
Supervisor	11.8 (4.8)	2.0	10.0 (4.7)	12.3 (4.9)	a 4.43** b 1.01
Co-workers	6.7 (2.0)	2.2	5.9 (2.1)	6.3 (2.2)	a 4.71** b 1.90
Spouse/partner	4.2 (2.3)	2.5	4.4 (1.6)	5.0 (1.4)	a 1.09 b 3.48**
Relatives/friends	4.3 (1.8)	2.1	3.2 (1.9)	4.0 (1.8)	a 7.10** b 1.58
Work support	18.5 (5.8)	2.1		Not available	
Non-work support	8.3 (3.1)	2.3		Not available	

Key: *p<0.01, **p<0.001.

8.6.3 Demographic differences in terms of social support

Table 8.3 summarises the significant differences in total social support, work support and non-work support on the job and personal demographics examined. Staff who worked in hospitals reported significantly higher ($p<0.001$) levels of total social support and work support than those who worked in the community. Shift workers reported significantly higher ($p<0.01$) levels of total social support and work support

Table 8.3: Significant differences in social support for selected personal and job demographics of the study sample (N=660).

	N	Mean (SD)	t or F	Post hoc Scheffé
Social support total				
<i>Job base</i>				
Hospital	427	27.7 (6.5)	t = 3.68**	
Community	156	25.4 (7.3)		
<i>Shift working</i>				
Yes	312	27.8 (7.0)	t = 2.75*	
No	328	26.4 (6.6)		
<i>Academic status</i>				
1.No formal qualifications	87	28.9 (6.4)	F = 4.61**	1>6*
2.O grade/GCSE	147	27.8 (7.3)		
3.A level/Higher/SYS	113	27.6 (6.4)		
4.HND/HNC	64	27.0 (6.4)		
5.Degree	161	25.9 (6.8)		
6.Higher degree	59	24.5 (6.1)		
Work support				
<i>Job base</i>				
Hospital	431	19.0 (5.5)	t = 3.75**	
Community	158	17.1 (5.9)		
<i>Shift working</i>				
Yes	313	19.1 (5.8)	t = 2.65*	
No	334	17.9 (5.6)		
<i>Academic status</i>				
1.No formal qualifications	88	20.1 (5.5)	F = 4.52**	1>6*
2.O grade/GCSE	148	19.0 (6.1)		
3.A level/Higher/SYS	115	19.0 (5.5)		
4.HND/HNC	65	18.4 (5.2)		
5.Degree	161	17.5 (5.8)		
6.Higher degree	61	16.4 (5.4)		
Non-work support				
<i>Marital status</i>				
1.Single	67	6.0 (2.8)	F = 30.58**	1<2**, 1<3**, 2>4**, 2>5**, 2>6*, 3>4**, 3>5**
2.Cohabiting	69	9.9 (2.4)		
3.Married	443	9.1 (2.8)		
4.Separated	23	5.3 (2.3)		
5.Divorced	38	6.4 (3.2)		
6.Widowed	10	5.7 (3.6)		

Key: *p<0.01, **p<0.001

than non-shift workers. Those who were single reported significantly lower levels ($p < 0.001$) of non-work support than those who were cohabiting or married. Separated, divorced and, to a lesser extent, widowed respondents reported significantly lower levels ($p < 0.001$, $p < 0.001$ and $p < 0.01$ respectively) of non-work support than those who were cohabiting. And finally, those who were married reported significantly higher levels ($p < 0.001$) of non-work support than those who were separated or divorced. Staff who had no formal qualifications reported significantly more ($p < 0.01$) total social support and work support than those who had been educated to the higher degree level.

High and low levels of social support were defined as scores which fell one standard deviation above and below the mean values for work and non-work support. Low levels of work support, i.e. those scoring less than or equal to 13, were reported by 20.5% ($N = 135$) of the present sample. High levels of work support, i.e. those scoring greater than or equal to 24, were reported by 23.3% ($N = 154$) of the present sample. These two groups differed significantly from each other in relation to length of time qualified (t (df 213) = 3.2, $p < 0.01$), length in post (t (df 280) = 3.5, $p < 0.001$), academic level (χ^2 (df 5) = 52.8, $p < 0.001$), job base (χ^2 (df 1) = 24.0, $p < 0.001$), shift working (χ^2 (df 1) = 9.8, $p < 0.01$) and type of shift (χ^2 (df 2) = 12.3, $p < 0.01$). Specifically, those who reported higher levels of work-based support had not been qualified as long nor been in post as long as those who reported lower levels of work-based support. Whilst the more highly qualified (i.e. degree and higher degree level), those working in the community, non-shift workers and those working a regular shift system were over-represented in those reporting lower levels of social support.

Low levels of non-work support, i.e. those scoring less than or equal to 5 were reported by 17.1% (N = 113) of the present sample. High levels of non-work support, i.e. those scoring greater than or equal to 11, were reported by 32.1% (N = 212) of the present sample. Those who were single (χ^2 (df 5) = 235, $p < 0.001$) were over-represented while those who had partners working full-time (χ^2 (df 3) = 95.3, $p < 0.001$) were under-represented in those reporting lower levels of non-work based support.

8.6.4 Correlations between social support and the other study variables

The relationship between social support and the relevant personal and job demographics are displayed in Table 8.4. There were significant negative correlations between social support total and length qualified ($p < 0.01$), length employed by the organisation ($p < 0.01$), and length in post ($p < 0.001$). It would appear that higher levels of social support are associated with shorter periods of tenure. This applied only to work-based support.

Table 8.4: Pearson's correlations showing the relationship between selected job and personal demographics and social support for the study sample (N=660).

	1	2	3	4	5	6	7	8	9	10
1. Age										
2. Length qualified	.78**									
3. Length employed	.54**	.65**								
4. Length in post	.47**	.56**	.62**							
5. Hours worked	-.03	-.08	-.02	-.06						
6. Days sick	.06	.10	.02	.09	-.15**					
7. Episodes sick	-.12*	-.07	-.09	.01	.01	.32**				
8. SS total	-.05	-.15*	-.11*	-.14**	-.05	-.04	-.03			
9. Work support	-.03	-.14*	-.11*	-.15**	-.02	-.08	-.03	.89**		
10. Non-work support	-.06	-.08	-.05	-.04	-.08	.04	.00	.56**	.12*	

Key: * $p < 0.01$, ** $p < 0.001$

Table 8.5 displays the correlations between work and non-work based social support and the stressor and strain variables as well as the scale reliabilities. Work support correlated significantly ($p < 0.001$) and in a positive direction with a number of variables suggesting that higher levels of work support were associated with lower levels of role ambiguity and job future ambiguity and higher levels of job satisfaction. Role conflict, and, to a greater extent, emotional exhaustion and psychological distress correlated significantly and in a negative direction with work support total. On the other hand, non-work support correlated significantly and in a negative direction with psychological distress and, to a lesser extent, the number of non-occupational concerns. The scale reliabilities ranged from .49 to .91, i.e. moderate to high. The moderate Cronbach's alpha related to the purpose-designed measure of non-occupational concerns.

Table 8.5: Means (SD), reliabilities and Pearson's correlations showing the relationships between the study variables (N=660).

Variables	M(SD)	1	2	3	4	5	6	7	8	9
1. RC	6.9(2.9)	(.87)								
2. RA	16.3(2.9)	-.36**	(.84)							
3. JFA	8.7(3.0)	-.22**	.29**	(.79)						
4. NW supp.	18.5(5.8)	.01	.05	.00	(.81)					
5. W supp.	8.5(3.1)	-.33**	.31**	.22**	.12*	(.88)				
6. Job sat.	66.4(13.2)	-.48**	.39**	.49**	.01	.55**	(.88)			
7. EE	18.7(10.5)	.34**	-.25**	-.22**	-.10	-.27**	-.46**	(.88)		
8. GHQ	2.3(3.3)	.23**	-.22**	-.20**	-.14**	-.25**	-.35**	.49**	(.91)	
9. Non-occ concerns	0.98(1.12)	.12*	-.14*	-.15**	-.12*	-.06	-.24**	.27**	.35**	(.49)

Key: RC - role conflict; RA - role ambiguity; JFA - job future ambiguity; NW supp. - non-work support; W supp. - work support; Job sat. - job satisfaction; EE - emotional exhaustion; GHQ - general health questionnaire; Non-occ concerns - non-occupational concerns; * = $p < 0.01$; ** = $p < 0.001$; Scale reliabilities (Cronbach's alpha) in parentheses.

8.6.5 Predicting strains

Hierarchical regression analyses were used to investigate the relative contribution of stressors, social support and their interactions to strains as shown in Tables 8.6 to 8.8.

Table 8.6 indicates that work support significantly moderated the relationship between role ambiguity and job satisfaction with a gain of 0.007 in the amount of variance explained. Work support did however appear to have a direct effect on the relationships between all three main stressor variables and job satisfaction. There were no moderating effects of either work or non-work support on the relationships between the main stressor variables and emotional exhaustion although work support again had significant direct effects in all three cases (see Table 8.7). Table 8.8 shows that both work and non-work support had significant direct effects on the relationship between role conflict and job future ambiguity and psychological distress (GHQ-12), with work support having a more significant role. There were no significant moderating effects in this regard.

Table 8.6: Moderated hierarchical regression analyses of job satisfaction.

Step	β	R ²	ΔR^2	FChg
1. <u>Role conflict</u>	-.471**	.221		
2. Non-occupational stressors	-.184**	.255	.033	28.45**
3. Non-work support	-.011	.255	.000	0.09
4. Work support	.451**	.433	.178	198.87**
5. Role conflict x non-work support	.178	.435	.002	2.76
6. Role conflict x work support	.028	.435	.000	0.09
1. <u>Role ambiguity</u>	.391**	.153		
2. Non-occupational stressors	-.186**	.187	.034	26.69**
3. Non-work support	-.038	.189	.001	1.11
4. Work support	.484**	.399	.210	223.04**
5. Role ambiguity x non-work support	-.356	.402	.003	3.48
6. Role ambiguity x work support	-.579*	.409	.007	7.65*
1. <u>Job future ambiguity</u>	.485**	.235		
2. Non-occupational stressors	-.165**	.262	.027	23.02**
3. Non-work support	-.018	.262	.000	0.28
4. Work support	.474**	.473	.211	253.19**
5. Job future ambiguity x non-work support	-.089	.473	.000	0.59
6. Job future ambiguity x work support	-.274	.477	.003	4.12

Key: * = $p < 0.01$; ** = $p < 0.001$.

Table 8.7: Moderated hierarchical regression analyses of *emotional exhaustion*.

Step	β	R ²	ΔR^2	FChg
1. <u>Role conflict</u>	.328**	.108		
2. Non-occupational stressors	.237**	.163	.055	41.93**
3. Non-work support	-.070	.168	.005	3.67
4. Work support	-.167**	.192	.024	18.96**
5. Role conflict x non-work support	.060	.192	.000	0.22
6. Role conflict x work support	-.057	.193	.000	0.29
1. <u>Role ambiguity</u>	-.245**	.060		
2. Non-occupational stressors	.242**	.117	.057	41.54**
3. Non-work support	-.055	.120	.003	2.17
4. Work support	-.207**	.159	.038	29.09**
5. Role ambiguity x non-work support	-.186	.160	.001	0.68
6. Role ambiguity x work support	.323	.162	.002	1.68
1. <u>Job future ambiguity</u>	-.219**	.048		
2. Non-occupational stressors	.242**	.105	.057	40.58**
3. Non-work support	-.065	.110	.004	2.97
4. Work support	-.222**	.156	.046	34.61**
5. Job future ambiguity x non-work support	-.029	.156	.000	0.04
6. Job future ambiguity x work support	.168	.157	.001	0.95

Key: * = $p < 0.01$; ** = $p < 0.001$.

Table 8.8: Moderated hierarchical regression analyses of *general health questionnaire*.

Step	β	R ²	ΔR^2	FChg
1. <u>Role conflict</u>	.219**	.048		
2. Non-occupational stressors	.333**	.157	.109	81.96**
3. Non-work support	-.102*	.167	.010	7.74*
4. Work support	-.171**	.192	.026	19.98**
5. Role conflict x non-work support	-.184	.195	.003	2.06
6. Role conflict x work support	-.145	.197	.002	1.83
1. <u>Role ambiguity</u>	-.216**	.047		
2. Non-occupational stressors	.326**	.151	.104	78.39**
3. Non-work support	-.092	.160	.008	6.30
4. Work support	-.184**	.190	.030	23.76**
5. Role ambiguity x non-work support	.302	.192	.002	1.85
6. Role ambiguity x work support	.526	.198	.006	4.66
1. <u>Job future ambiguity</u>	-.191**	.036		
2. Non-occupational stressors	.327**	.141	.105	77.10**
3. Non-work support	-.100*	.151	.010	7.31*
4. Work support	-.196**	.187	.036	27.98**
5. Job future ambiguity x non-work support	-.099	.188	.001	0.48
6. Job future ambiguity x work support	.273	.191	.003	2.63

Key: * = $p < 0.01$; ** = $p < 0.001$.

The slope of the regression line of job satisfaction on role ambiguity for low work support ($R = 0.391$) was steeper than the slope of the regression for high work support ($R = 0.135$). Therefore the relationship between role ambiguity and job satisfaction was stronger for those who perceived low levels of work support and weaker for those who perceived high levels of work support.

8.7 Discussion

This study aimed to assess the levels of social support in nurses, medics and professions allied to medicine, as assessed by the House & Wells (1978) measure, in a sample of these occupational groups working in a Scottish health service Trust which provided acute and continuing care psychiatric services in a range of hospital and community bases. In addition, the study aimed to identify the correlates of reported work and non-work social support from a range of measures of work-related stressors, non-occupational stressors, and strains. Hierarchical regression analyses were then used to determine any moderating effects of social support on the relationship between stressors and strains.

The present study adopted a cross-sectional design which allows relationships between variables to be identified at one point in time only and thus makes it difficult to draw causal inferences. A longitudinal design would have addressed this weakness but such an approach was beyond the scope of this study. However, longitudinal designs have their own methodological problems, including selection effects and uncontrollable intervening variables (Frese & Zapf, 1988), which may limit the robustness of any causal interpretations. The data collected was based on self-report data only and could therefore be open to common-method bias (Frese & Zapf, 1988).

However, as the correlations between the stressors, social support and the strains are, on the whole, relatively modest, this may not be a major problem. Clearly a reliance on more than one method of data collection would overcome this criticism to a degree, but this is not always easily achievable. In addition, studies have shown that there is a high correlation between expert ratings and subjective assessments of the same job conditions (Spector, 1992). The moderator variable, i.e. social support, was correlated with some of the independent and dependent variables which is not desirable (Baron & Kenny, 1986) and therefore makes the interaction terms not as clearly interpretable. Clearly a limited range of stressors and strains were examined and there may be many other relevant factors which were not included such as personality which has been shown to have an influence on social support (Zellars & Perrewe, 2001). The sample size was designed to be representative and to permit generalisability of findings, and all participants came from one employing Trust to minimise any confounding factors in this regard. The response rate of 49.96%, although moderate, is in keeping with that of studies with a similar methodology (e.g. Borrill *et al.*, 1996). Finally, the results of this study can only be viewed in relation to staff working in psychiatric settings and cannot be generalised to other locations such as acute or general medicine.

Results indicated that the overall study sample reported moderate levels of social support. The overall group scores were higher than a comparative group from a private sector organisation and much the same as another health-related organisation in the same geographical region. This is partly in keeping with the results of Alexander (1997) who reported that 76% of NHS staff surveyed were satisfied or very satisfied that their immediate supervisor was supportive. In the present study, hospital

workers, shift workers and those with fewer qualifications reported higher levels of support overall and work-based support in particular. Duquette *et al.* (1995) also found that nurses on day shift perceived more work support. Not surprisingly, individuals in the study sample who were single reported lower levels of support, particularly non-work based support, than those in relationships.

High levels of work support were reported by 23.3% of the present sample. The high work support group differed significantly from the low work support group in terms of length of time qualified, length in post, academic level, job base, shift working and type of shift. High levels of non-work support were reported by 32.1% of the sample. Cushway *et al.* (1996) found that it was the quality of the support provided by the closest confidante that was most significantly associated with low job stress. This would suggest that newer, more recently qualified and less highly qualified staff, based primarily in hospitals, who work flexible or irregular shift patterns perceive higher levels of work support. Those who are not single and have full-time working partners perceive lower levels of non-work support.

As hypothesised, higher levels of work stressors were associated with higher levels of emotional exhaustion and psychological distress, and lower levels of job satisfaction. Dollard *et al.* (2000) found, in a mixed sample of 813 human service workers, that support, as measured by the Work Environment Scale (Moos, 1981), correlated positively with job satisfaction and negatively with emotional exhaustion. In the present study, more non-occupational concerns were indeed associated with greater psychological distress as anticipated, but also, somewhat unexpectedly, with greater emotional exhaustion and less job satisfaction. This finding is, however, in keeping

with the results of studies into the permeability of home to work stress and vice versa (Swanson *et al.*, 1998). Higher levels of work support were associated in the present study with lower levels of role ambiguity, role conflict, job future ambiguity, emotional exhaustion, psychological distress and increased job satisfaction. Haynes *et al.* (1999), in a sample of over 7,000 UK health service staff, found that role clarity was positively associated with job satisfaction and leader support. Role conflict on the other hand was found to be negatively associated with leader support and job satisfaction. Higher levels of non-work support were only associated in the present study with fewer non-occupational concerns and reduced psychological distress.

A moderation effect of social support was only found in the relationship between role ambiguity and job satisfaction. The gain in the amount of variance explained was very small but this has been the case in other studies (Lim, 1996). Authors such as Lim (1996) have found that work-based support significantly moderates the relationship between job insecurity and job dissatisfaction which was not replicated in this sample. Work support, in the present study, did however have a direct effect on job satisfaction, emotional exhaustion and psychological distress while non-work support had a direct effect only on psychological distress in some conditions. It may be that social support has more of a moderating role in acutely stressful events than in the often chronic stressors found in the workplace (Cobb, 1976).

It would appear then that social support may, in some instances, provide a protective effect against work and non-work stressors but clearly does reduce self-reported strains. This has ramifications for the working environment and efforts at enhancing social support in the workplace could be a cost-effective intervention (Stansfield *et*

al., 1999). Special attention should arguably be given to those who work in community settings and have been longer in post as staff outwith these groups seem already to perceive higher levels of available support. It may be that staff based in hospitals tend to work more closely and have greater opportunities for support in the working day while community based staff are more isolated (Joplin *et al.*, 1995). In addition, there may be an assumption that staff who have been longer in post are less in need of support or, indeed make less use of available support for fear of how it may be perceived. However, there is a danger in highlighting particular groups for intervention as this may stigmatise them and reduce their feelings of self-efficacy (Gottlieb, 1996).

Over the years there have been calls for education about the health risks of social isolation and the benefits of social support (Joplin *et al.*, 1995; Quick *et al.*, 1996). Many authors have advised that interventions in relation to social support should be considered in the workplace (Dollard *et al.*, 2000) and some have made specific proposals such as mentoring, networking and team building programmes (Joplin *et al.*, 1995; Quick *et al.*, 1996). Fostering a climate within the workplace whereby the use of social support is seen as a strength rather than a weakness has also been seen to be necessary (Quick *et al.*, 1996; Sutherland & Cooper, 1990e). Even the provision of facilities for lunching together have been recommended as a way of helping to promote social interactions in the workplace (Garbarino, 1983). Sutherland & Cooper (1990e) recommend interpersonal skills training for those managers whose interpersonal styles are themselves a source of pressure for subordinates. Others (Joplin *et al.*, 1995) suggest that performance appraisals should include scrutiny of the promotion of supportive networks. A report by the partnership on the health of the

UK health service workforce (Williams *et al.*, 1998) based on a systematic review of the literature, made a number of recommendations to minimise the risks to health. One of these was to “structure situations to promote both formal and informal social support within the workplace”.

Despite such recommendations studies which have examined the effects of overt attempts at enhancing social support in the workplace are scarce indeed. Some authors have argued that the types of social support interventions should be matched to a range of aspects of the situation and the individual concerned such as the nature and demands of the stressor, the characteristics of the recipient and their supportive needs, and the sources and characteristics of the support already available (Gottlieb, 1996). Heaney *et al.* (1995a & b) reported on a programme designed to increase social support with a group of staff and managers from group homes for adults with developmental disabilities or mental illness. They found that the intervention group experienced greater increases than a control group in supportive feedback, self-appraisal of coping, group problem-solving, positive work team functioning, work team climate and overall mental health.

Because of the strong direct effects of role conflict, role ambiguity and job future ambiguity on strains, efforts should also be directed at addressing these characteristics of the work environment. Barber & Iwai (1996) suggest that to reduce role conflict and role ambiguity resources should be available to meet assignments, operational policies and criteria for job evaluations should be harmonised between departments, and job assignments should be in keeping with organisational policies.

8.8 Conclusion

The results of the present research have a range of potential implications for the study sample in question and perhaps for the wider population of staff working in psychiatric settings.

It would appear that social support has a role in the workplace in terms of reducing reported staff strain and minimising the impact of a limited range of job-related stressors. However, enhancing social support in the workplace should not be considered in isolation from attempts at reducing or removing workplace stressors at source. The provision of workplace counselling is the most common organisational response to staff strain but this, in and of itself, is no longer considered an adequate response to this issue. A comprehensive approach will require interventions at the organisational, group and individual level (Cox, 1993) and social support enhancement is only one of these. Future research in the area of social support in the workplace is likely to be more relevant if it is more intervention-oriented and targeted to the employee population in question.

CHAPTER 9:

Conclusions and Recommendations

9.1 **Introduction**

The field of occupational stress is a substantial and continuously expanding research area. It has evolved from very simplistic explorations of sources of stress and/or experiences of strain, to sophisticated multivariate model testing. Alongside the developments in academic knowledge, advancements in practical application have also emerged.

Health service employees are of particular interest in relation to occupational stress because of their number, their exposure to a wide range of identified work-related stressors, the particular nature of the work that they do, and the public scrutiny which they come under. The present study sought to build a picture of occupational stress in health service personnel taking into account work and non-work stressors, a range of possible intervening variables, and the possible physical, psychological and behavioural effects. The methodology used was that of a postal questionnaire based on a theoretical model incorporating stressors, mediator/moderators and strains. The questionnaire was made up of both standardised measures and some amended and purpose-designed tools. The research design was cross-sectional and the sample size was substantial to allow multivariate statistics to be employed.

Particular aspects of occupational stress were studied in detail for three main occupational groupings. These were burnout for nurses, occupational stressors for medics and P.A.M.'s, job satisfaction for management and support staff, and the role of social support in the relationship between stressors and strains for medics, P.A.M.'s and nurses.

9.2 Conclusions from the present study

9.2.1 Burnout in nurses

- *Point 1*

Nurses reported average, low and average levels of emotional exhaustion, depersonalisation and personal accomplishment respectively.

- *Point 2*

Nurses reported significantly lower levels of emotional exhaustion and depersonalisation than normative data. They also reported significantly lower levels of personal accomplishment than a normative group of physicians and nurses.

- *Point 3*

High levels of emotional exhaustion were reported by 21.6% of nurses and full-time workers were over-represented in this group. High levels of depersonalisation were reported by 7.1% of nurses and this group was characterised by being male, younger and more recently qualified. Low levels of personal accomplishment were reported by 33.1% of nurses and this was more characteristic of the least and highest qualified, A, C and D grades, part-time workers, and those who had been longer in post. Only 2% of nurses reported high levels of burnout overall and males were over-represented in this group.

- *Point 4*

A combination of high role conflict, having non-occupational concerns, high levels of nursing stressors, high negative affectivity, high levels of psychological distress, unpredictability, uncertainty in relation to job future, lack of social support, reduced feelings of personal accomplishment, and low job satisfaction accounted for 41.9% of the variance in emotional exhaustion.

- *Point 5*

High levels of negative affectivity and unpredictability accounted for 16.4% of the variance in depersonalisation.

- *Point 6*

Higher levels of control, greater positive affectivity, being in post for a shorter period, higher levels of predictability and low levels of role ambiguity accounted for 25.6% of the variance in personal accomplishment.

It would appear then that there was a significant proportion of nurses in the Trust in question who reported high levels of emotional exhaustion and low levels of personal accomplishment, whilst at the same time not reporting high levels of depersonalisation. Only a small percentage could be said to be reporting high levels of burnout overall. Negative affectivity and unpredictability seemed to be the common contributory factors across the three elements of the burnout syndrome.

9.2.2 Medics and the professions allied to medicine

- *Point 1*

Medics and P.A.M.'s reported relatively low levels of stress as measured by the Specialist Doctors Stress Inventory (SDSI).

- *Point 2*

Medics and P.A.M.'s did not differ significantly on the SDSI.

- *Point 3*

High scorers on the SDSI did not differ from the rest on a range of personal and job demographics.

- *Point 4*

Three of the top five most frequently endorsed items from the SDSI came from the Clinical Responsibility subscale. Three of the top five items reported as very frequently stressful by the greatest number of respondents came from the Demands on Time subscale.

- *Point 5*

The number of hours worked in the week previous to the completion of the questionnaire was positively associated with the Clinical Responsibility and Demands on Time subscales.

- *Point 6*

Approximately 6% of the variance in the score on the SDSI was accounted for by a mix of demographic variables. Work demands accounted for an additional 9%, while role ambiguity, role conflict and predictability added another 16%. Negative affectivity accounted for another 14%. Thus 44.2% of the variance in the score on the SDSI was accounted for.

It can be concluded then that levels of work-related stress do not differ significantly between medics and the professions allied to medicine in the Trust in question. The issues which appear to be most stressful for these groups are related to being responsible for the clinical aspects of care and the competing demands on time. The number of hours worked also influences the reporting of work-related stressors. The generic stressors of role ambiguity, role conflict and predictability, in combination with negative affectivity account for most of the reporting of work-related stress.

9.2.3 Management and support staff

- *Point 1*

Overall, management and support staff reported a moderate degree of job satisfaction as measured by the Warr, Cook and Wall (1979) job satisfaction measure and this was significantly lower than the norm. However, managers had similar levels of job satisfaction as university graduates and ancillary/trade staff had similar levels as manual workers. Managers had significantly greater job satisfaction than administrative/clerical and ancillary/trade staff from the study sample.

- *Point 2*

The most frequently endorsed satisfied item of the job satisfaction measure was 'the freedom to choose own method of working' while the most frequently endorsed dissatisfied item was 'rate of pay'.

- *Point 3*

Greater job satisfaction was associated with being older, being qualified for longer, reporting less job-related stress, greater job-related control, less role ambiguity, less job future ambiguity, less role conflict, fewer non-occupational concerns, more social support, higher positive affectivity and lower negative affectivity, less physical symptomatology, lower levels of emotional exhaustion and depersonalisation, higher levels of personal accomplishment and lower levels of psychological distress.

- *Point 4*

A combination of the above variables accounted for 61.1% of the variance in job satisfaction.

Although job satisfaction for managers and support staff overall was lower than the norm, each occupational group compared favourably with their peers. Autonomy, in terms of the way individuals worked, was associated with satisfaction whilst dissatisfaction was associated with salary level. Satisfaction was influenced by the generic stressors of role ambiguity, role conflict, job future ambiguity, control and non-occupational concerns.

9.2.4 Social support

- *Point 1*

Nurses, medics and P.A.M.'s reported moderate levels of social support and significantly higher levels than staff from a public utility company. Reported levels were in keeping with another health-related organisation with the exception of lower levels reported from spouse/partner.

- *Point 2*

Low levels of work support were reported by 20.5% and high levels by 23.5%. Those staff working in hospitals and working shifts reported greater work support than those non-shift workers in community locations. Those with no formal qualifications reported greater work support than those qualified to the higher degree level.

- *Point 3*

Low levels of non-work support were reported by 17.1% and high levels by 32.1%. Single respondents reported less non-work support than those who were cohabiting or married.

- *Point 4*

Greater work support was associated with shorter time since qualification, shorter duration in post and employed by the organisation, lower levels of role ambiguity, role conflict and job future ambiguity, greater job satisfaction, lower levels of emotional exhaustion and psychological distress.

- *Point 5*

Greater non-work support was associated with fewer non-occupational concerns and lower levels of psychological distress.

- *Point 6*

Work support significantly moderated the relationship between role ambiguity and job satisfaction.

Although reported levels of social support were moderate overall, a significant proportion of nurses, medics and P.A.M.'s reported low levels of work support. Community based non-shift workers educated to a high level appeared most at risk in this regard. Greater levels of work support were associated with reduced strain in terms of job satisfaction, emotional exhaustion and psychological distress, and appeared to have a particular influence when there was a lack of role clarity.

9.2.5 General

- *Point 1*

The model adopted in the present research would appear to be useful for understanding the complex interrelationships between a range of variables that make up the process of occupational stress in health service personnel. It is not necessarily

the case that such a model would be applicable to all occupational groups and indeed this would be considered the norm, for example “a theory that helps understanding and intervention for a particular worker in one context may not be useful for other individuals in other contexts” (Briner, 2000).

- *Point 2*

On average, the staff in the particular Trust under investigation, would appear not to have major difficulties in relation to aspects of work-related stress. That is not to say that there are not areas of concern but that perhaps a more considered approach to reporting in this area is worthy of consideration.

- *Point 3*

The results of the present study would also appear to confirm the assertion that, in terms of intervention in the field of work-related stress, one size does not fit all.

Intervention clearly requires a more tailored approach, not just in relation to occupational groupings but also in relation to particular stressors.

- *Point 4*

As is increasingly recognised to be the case, the reporting and experience of work-related stress cannot be considered in isolation from non-occupational stressors and aspects of personality. This is demonstrated in the repeated occurrence of these variables in the examination of relationships between stressors and strains in the present study. Employers have no direct influence on these factors but this does not mean that all efforts cannot be made to address any contributory work-related stressors.

9.3 Methodological weaknesses and recommendations for future research

The strengths and weaknesses of this research and any recommendations following from it have been discussed in detail in Chapters 5-8. The following therefore is a brief summary of the key points made previously.

This study attempted to improve upon previous work by utilising an accepted theoretical model made up of the three elements of stressors, mediators/moderators and strains. The model was devised to have practical utility and was not an attempt at more sophisticated model testing using, for example, the structural equations approach of Deary *et al.* (1996b). However, it was acknowledged that whilst the three elements listed above have a range of potential interactions, the testing of all possibilities was beyond the scope of this study.

The selection of the stressors, mediators/moderators and strains that were assessed was based on evidence from previous research with particular consideration to the occupational groupings under investigation. The selected generic stressors are not an exhaustive list and it would not be feasible to assess for all potential stressors in a study of this kind. It may be the case then that other unassessed stressors may have been relevant. An example of such a potential stressor could be organisational climate or culture (Cox, 1993). However, it has been proposed, that if key stressors are targeted by an organisation for intervention, then there will likely be an indirect impact upon organisational culture (HSE, 2003). Another example could be non-work stressors which were assessed in a fairly simplistic manner in this study. Again it could be argued that if an organisation takes responsibility for addressing work-related stressors then this will have an impact on individuals' ability to deal with non-

work stressors (Kinman & Jones, 2001). It was clear from the pilot study that the non-occupational stressors measure had face validity and it served as an attempt to capture some of the key areas in life outside work that can become sources of stress. This measure was purpose-designed and did not undergo the rigorous standardisation or reliability and validity testing that is the norm when introducing new measures. The profession specific measures were considered the most relevant and widely used measures in the area. The area of stressor measurement is a continually evolving one and it may be the case that, in the future, other more appropriate tools will be developed. The range of mediators/moderators selected for inclusion included the key areas of coping and social support. It was important in selecting the tools used for this, as with the other areas assessed, to strike a balance between appropriate coverage of the variable in question and reasonable length of any questionnaire. The aspect of personality assessed, i.e. affectivity, is considered a crucial variable in the stressor-strain relationship. It is however only one aspect of personality and future research may point to additional characteristics which will be relevant. The key areas of physical, psychological and behavioural strains were assessed using the Psysom, job satisfaction, burnout, psychological distress and self-reported absenteeism. The so-called objective assessment of physical strain, using blood and urine sampling for instance, was outwith the scope of this study. There is evidence to suggest however that there is a strong association between these more invasive indicators and self-report of physical symptoms and signs. The psychological indicators of job satisfaction and psychological distress are two of the most commonly reported in the literature whilst burnout was chosen as it appears to be particularly relevant to health service personnel. Finally, the use of self-reported sickness absence as a behavioural indicator of strain could have been strengthened by the incorporation of

organisational data. The limitations of such data have been discussed previously and the risk of a degree of loss of anonymity may have affected the response rate.

The present study adopted a cross-sectional design which has a number of problems as outlined in Chapter 2. The findings of the present study might benefit from being re-examined in a longitudinal design. Frese & Zapf (1988) recommend a study design which begins prior to the introduction of a new stressor, if this can be predicted, with initially short intervals between measurement points expanding over time up to a ten year follow-up. This would obviously be a costly exercise and the attrition and confounding effects would probably be significant. Frese & Zapf (1988) argue that we should ask the question “how and in which time period” stressors lead to strains. They recommend research on people who have just started work and are then followed through, for example using single case studies. In addition, more attention should be paid to identifying which aspects of the job are related to employee well-being in different occupations. It may be that more qualitative approaches would be appropriate in terms of identifying unique work-place stressors prior to a more quantitative attempt at measurement.

9.4 Implications of the present research

The overall implications of the present research point to the need for tailored assessments of occupational stress within organisations, especially if targeted programmes of intervention are to be developed. However, given the role of non-occupational concerns and aspects of personality, it is unlikely that even a comprehensive approach to occupational stress will fully address all the strains reported by staff.

Cooper and Cartwright (1996) described a comprehensive approach to 'stress management' as consisting of three levels. The first, primary prevention, aimed at reducing or eliminating stressors, would be based on a stress audit and may include elements of health promotion. Secondary intervention might include increasing awareness of stress, both at an individual and organisational level, and improving stress management skills. Tertiary intervention consists of efforts aimed at rehabilitation and recovery. Ivancevich *et al.* (1990) maintained that stress management interventions attempt to either (1) reduce the quantity or severity of stressors, (2) modify employees perception of the stressfulness of the situation, or (3) provide employees with skills/strategies to cope more effectively with stressors and/or their consequences. Murphy (1988) had previously labelled these levels of intervention as primary, secondary and tertiary respectively.

Le Blanc *et al.* (2000) claimed that job stress interventions focus on three levels namely the organisation (addressing the source of stress), the interface between the organisation and the individual (increasing resistance to stressors), and the individual (teaching coping strategies). They therefore serve five main purposes:

(i) identification, (ii) primary prevention, (iii) secondary prevention, (iv) treatment, and (v) rehabilitation. Examples of organisational interventions include audit, removal/reduction of stressors, efforts aimed at enhancing the fit between the organisation and the employee, and the provision of employee services, e.g. Occupational Health. Individual/organisation interface interventions include increasing awareness, and improving coping skills and/or support at work. Increasing awareness can also form part of individual interventions alongside reducing negative arousal, curing complaints by treatment, and rehabilitation.

9.4.1 Audit and primary level interventions

It is not uncommon for organisations to undertake stress management interventions without prior assessment of the extent, nature, sources and impact of stress within their employee population. Such an assessment is seen by many authors as a “prerequisite for designing effective stress interventions” (Murphy, 1999). Cartwright *et al.* (1995) maintained that “the type of action required by an organisation to reduce or eliminate workplace stressors will vary according to the kinds of stressors operating, the level of coping skills of those involved, and the culture of the organisation” (p. 224). It follows therefore that any action taken within an organisation aimed at addressing ‘stress’ should be tailored to the assessed need. Assessments can take the form of informal or formal discussions with staff, monitoring so-called stress indicators such as absenteeism, turnover, etc., purpose-designed questionnaires, or standardised measures (Murphy, 1995). Key factors for the success of any such approach include worker involvement, management commitment, and a supportive culture (Murphy, 1999). Despite the focus to date on secondary and, particularly, tertiary level interventions there have been calls for primary level strategies (Ilgen, 1990; Wykes & Whittington, 1999). Removal or reduction of stressors at source is seen by some authors as “the most direct” (Burke, 1993) and “the most effective” (Berridge *et al.*, 1997) way to address stress. Such organisational level interventions have been said to have the potential to provide much more comprehensive and long-lasting changes in employee health and possibly productivity (Dollard & Metzger, 1999).

It has been stated that one of the reasons that there are few studies of primary level interventions is that they are particular to the organisation in question (Murphy,

1999). It may also be that management perceive secondary and tertiary level interventions as more convenient and less costly than primary level interventions. These former options place the responsibility on the employee to change rather than either changing the organisation or requiring management to address working practices. This has helped to perpetuate the myth of stress as a sign of individual weakness. Nevertheless, some studies include interventions with primary, secondary and tertiary level components making it difficult to determine the relative effectiveness of each (Jones *et al.*, 1988). Some organisational intervention studies have as their focus, not enhancing employee well-being in relation to stress, but other issues of relevance to the organisation which may have indirect effects on employee well-being. These include reducing costs (Hanlon, 1986), reducing musculo-skeletal injuries (Bohr *et al.*, 1997), and minimising risks of HIV exposure (Gershon *et al.*, 1995). However, there is growing evidence that the costs incurred in introducing primary level interventions are offset by the long-term benefits accrued for employees and the organisation (O'Driscoll & Cooper, 1996b). Studies have shown that hospitals that are known for excellence in nursing care and low levels of patient mortality are characterised by flat organisational structures, nurse participation in decision-making, emphasis on staff development, nurse self-scheduling and unit-based staffing (Kramer & Schmalenberg, 1988; Sochalski *et al.*, 1997). Wall *et al.* (1997) reported that hospitals with lower levels of stress had greater co-operation, better communication, more staff training and enhanced staff autonomy.

Examples of primary level interventions include those proposed by Elkin & Rosch (1990), i.e. task redesign, changes in the physical environment, role definition and clarification, flexible work schedules, feedback and reward systems, to name but a

few. In a review, Ivancevich *et al.* (1990) found only four evaluations of organisational interventions aimed at the reduction of stress levels in employees. These studies attempted to assess the effects of increasing autonomy and participation, and introducing flexible work schedules on employee strain (Wall & Clegg, 1981; Jackson, 1983; Pierce & Newstrom, 1983; Murphy & Hurrell, 1987). In all cases there were reductions observed in employee strain as a result. Burke (1993), in a review of ten organisational-level interventions aimed at reducing stress at work, also found positive benefits. Increasing worker participation in job redesign in hospital settings was the focus of studies by Murphy *et al.* (1994), Abts *et al.* (1994), and Molleman & Van Knippenberg (1995). Results indicated either significant increases in satisfaction, reductions in turnover, absenteeism or job stress, or combinations of these, in the 1994 studies but only weak effects in the 1995 study. There is a clear need for more evaluations of interventions at the organisational level (Dollard & Melzer, 1999). Murphy *et al.* (1992) contend that “job redesign and organisational change remain the preferred approaches to stress management because they focus on reducing or eliminating the sources of the problem in the work environment”.

9.4.2 Secondary level interventions

“Occupational stress reduction may, in time, appear to be one of many fads that are initiated by academics, commercialised by consultants and embraced by managers but that ultimately fail to deliver the panacea-like solutions which they promise” (Reynolds & Briner, 1996). Indeed some authors have argued that, because of the unique characteristics of health care professionals (Wykes & Whittington, 1999) they require specially tailored workplace stress interventions (Orton, 1996). The majority

of stress management programmes have focused on the secondary or tertiary levels of intervention (Kahn & Byosiere, 1992). Some (Reynolds & Briner, 1996) state that the benefits of stress management to the individual employee, whether delivered on a group or one-to-one basis, are small and short-lived. They go on to state that there is little evidence of any benefits to organisations. However, some authors believe that it is at the secondary level of intervention that most impact can be made (Baldwin, 1999). Interventions at this level focus on awareness-raising, education and training and skills acquisition (Berridge *et al.*, 1997). Secondary level interventions are more often than not generic in nature (Cooper & Payne, 1992) thereby not addressing the specific needs of the target group. It is very common for there to have been no prior assessment of the needs of the employees in the organisation (Ivancevich & Matteson, 1987). Evidence of the efficacy of secondary level interventions is sparse (Jones *et al.*, 1988; Kahn & Byosiere, 1992; Cooper & Cartwright, 1994). It has been argued that the provision of training to cope with existent stressors which are amenable to change may only result in short-term gains (O'Driscoll & Cooper, 1996a) and is therefore not cost-effective. In addition, focusing only on secondary and tertiary level interventions in isolation from any attempts at primary level intervention could be seen as a negation of a significant degree of organisational responsibility.

To date, although programmes have common components, there has been no generally accepted standardised stress management training programme developed and this has been levelled as a criticism by some (Hardy & Barkham, 1999) as it makes evaluation and replication difficult. However, others have argued that strategies which are based on a targeted and specific stress audit are more likely to be effective than those based on more global and simplistic models (Sparks & Cooper,

1999). There are a number of difficulties in evaluating stress management interventions some of which have been outlined by Berridge *et al.* (1997) and Cox (1993). These include pressure on resources such as time and finances; orientation towards treatment rather than research on the part of employers; staff and employer concerns over confidentiality; difficulties in establishing a control group; lack of use of standardised outcome measures; and, difficulties in accessing organisational data. The time frame for the measurement of outcome is also problematic as there may be time lag effects for some forms of intervention.

There are three usual purposes for evaluating stress management programmes (Cox, 1993). Firstly, to establish whether the programme is effective; secondly, to determine the relative efficiencies of two or more programmes; and, thirdly, to assess the cost-effectiveness of the programme. Evaluations of stress management interventions are often methodologically flawed (Hardy & Barkham, 1999) and although they usually demonstrate improvements in self-reported symptoms, at least in the short term (Ivancevich *et al.*, 1990), they generally do not reveal changes in job-related attitudes (Everly, 1989) nor organisational indicators such as absenteeism (Murphy, 1996). Rigorously controlled comparisons of different stress management packages are even rarer (Hardy & Barkham, 1999). Kagan *et al.* (1995) compared three approaches to stress management, i.e. controlling physical symptoms, increasing skills for dealing with people, and enhancing personal coping skills, and found them all to be effective over a two year follow-up, particularly the personal coping skills. Bunce & West (1996) compared standard stress management training with facilitation of innovative ways of addressing work-related stressors in a health service setting. The stress management training was found to be more effective. Heaney *et al.* (1995) looked at

training designed to improve social support and involvement in decision-making which impacted on participants perceived ability to cope with work-related stressors but not on their psychological health. Maynard (1996) found that health service managers failed to recognise when they were stressed and so educational and attitudinal change interventions may be appropriate for this group (Borrill & Haynes, 1999).

The value of staff support groups is well known (Carson *et al.*, 1995). Baldwin *et al.* (1998) found that higher levels of social support and communication with senior staff were significantly associated with fewer psychological symptoms in a longitudinal study of nurses in training. They suggested that interventions focusing on supervision might facilitate the process of staff support. Haynes *et al.* (reported in Borrill *et al.*, 1998) reported that health service managers found benefits from attending management skills workshops which were more to do with the support from peers than the content of the workshops themselves. A major source of stress reported by pre-registration doctors is their relationship with senior staff (Richardson, 1998) and therefore interventions aimed at enhancing consultant trainers supportive skills would be expected to reduce stress in young doctors (Moss & Paice, 1999).

The promotion of good team working (Guzzo & Shea, 1992) is another potential secondary level intervention. Murphy *et al.* (1994) reported on an intervention with nursing and administrative staff which was aimed at enhancing team working. They found that this approach resulted in greater staff co-operation and reduced stress. Carter & West (1999) reported that the more positive the team processes in primary and secondary care, i.e. clarity of objectives, levels of participation, task orientation,

etc., the better the mental health of the employees. They also found that interventions designed to promote more effective team working resulted in improvements in mental health of employees and in team processes. The improvements, although consistent, were not large. There are organisational and professional barriers to good teamworking not least a lack of training in the subject (Mohrman *et al.*, 1995; West & Allen, 1997; Carter & West, 1999).

9.4.3 Tertiary level interventions

Tertiary level interventions focus on recovery and rehabilitation of already stressed employees (Berridge *et al.*, 1997). The provision of counselling services may form one such tertiary level approach. There are a number of reasons why an organisation may provide a counselling service for its employees (Berridge *et al.*, 1997; Wykes & Whittington, 1999). Firstly, from a very humanistic standpoint, there may be a genuine desire to care for staff well-being and strive for a culture of excellence with good industrial relations. Employers have a legal duty of care which applies as much to mental health issues in the workplace as it does to physical health issues. There is clearly a desire on the part of employers to increase efficiency through enhanced performance and productivity, and addressing occupational stress is seen as a contributory factor in this. Introducing counselling services in isolation from any other attempts at stressor management has been interpreted as “making the workforce totally responsible for its own stress” (Wykes & Whittington, 1999).

Approximately 4-8% of an organisation’s employees make use of a counselling service which is in place in three quarters of 115 health service trusts and health authorities in the UK (Berridge *et al.*, 1997; Payne, 1998). Nurses appear to want

counselling services from their occupational health service significantly more than other professional groups although doctors have also indicated that they welcome counselling in the workplace (Mayberry *et al.*, 1986; King *et al.*, 1992; Scott *et al.*, 1995). On the other hand, health service managers may be the least likely to access such services when they experience stress (Maynard, 1996).

There are a range of problems with evaluating workplace counselling services including lack of a matched control group or any attempt at control at all, selection effects, poorly described client populations, poorly defined client problems, a lack of detail on the treatments offered, outcome assessment which is not blind to the intervention and so on (Reynolds & Shapiro, 1991; Berridge & Cooper, 1993; Berridge *et al.*, 1997; Hardy & Barkham, 1999). Despite this, counselling services have been said to reduce absence, improve job satisfaction and reduce symptoms (Firth-Cozens & Hardy, 1992). Highley & Cooper (1995) carried out an independent evaluation, commissioned by the HSE, of nine British workplace counselling programmes. They used a range of outcome measures including the GHQ-12, mental/physical health subscales from the OSI, job satisfaction from the OSI, life events, four subscales from the SPJS of the OSI and self-reported absenteeism, as well as attitudes towards and perceptions of the value of the counselling services. Results indicated that, following counselling, there were significant improvements in mental and physical well-being with no changes in job satisfaction or on the SPJS. There was a reported reduction in absenteeism. Part of the Borrill *et al.* (1996) study of UK health service Trusts looked at the provision of counselling services to 58 employees. Participants were administered the GHQ-12, 18 items from the System-checklist-90-R, and 32 items from the Inventory of Interpersonal Problems before and

after counselling. Pre-counselling 84.5% of the employees obtained a GHQ-12 score greater than or equal to a cut-off of 4. This fell to 27.6% post-counselling. The renowned Post Office Study (Allison *et al.*, 1987) found significant declines in sickness absence, anxiety and depression, and increases in self-esteem post counselling. However, Cartwright *et al.* (1995) maintain that “strategies that in effect shift the responsibility for dealing with workplace stress onto the individual, in isolation, are unlikely to prove effective”.

Given the role of personality variables in the stress process some authors have suggested interventions in this area. For instance, Spector (1999) recommended the use of personality tests in the selection of healthcare workers where the jobs involved are known to be particularly stress-inducing such as accident and emergency work for example. However, Baldwin (1999) reported that there is unlikely to be a reliable psychometric tool which would predict successful nurse training completers from those who would be unsuccessful. There will, however, as in any workplace, always be a percentage of staff in healthcare settings who have personality characteristics which will make them more prone to experiencing the effects of work pressures than others. As such characteristics are thought to be relatively stable and not readily amenable to change, there will be a requirement for organisations to be aware of this and to provide appropriate support, training and treatment when necessary.

9.4.4 A comprehensive approach

There are very few studies which have attempted to compare the three different levels of primary, secondary and tertiary intervention for relative effectiveness. Reynolds (1997) compared individual counselling with a primary level intervention aimed at

increasing employee's participation and control. Counselling improved psychological well-being but neither intervention had an effect on physical symptoms or absence. There has been little or no attempt at undertaking cost-benefit analyses of particular interventions for which there is clearly a need (Dollard & Melzer, 1999). Berridge *et al.* (1997) reviewed American studies of the cost-benefit of Employee Assistance Programmes (EAP), which invariably provide a range of other services in addition to counselling, and claimed an average dollar return on investment of 3:1.

It is highly likely that neither primary, secondary nor tertiary level interventions in isolation will be sufficient to address all the stress-related problems within any one organisation. It is more likely to be the case that a comprehensive approach involving interventions at all three levels will be required (see Figure 9.1). Adoption of such a comprehensive approach has been said to demonstrate greater commitment on the part of the organisation towards the issue of occupational stress (Murphy, 1999).

Many authors now argue for the concept of 'organisational health' which combines employee well-being with organisational effectiveness (Cox & Howarth, 1990; Sauter *et al.*, 1996). Given the pivotal role of managers in the health service some have argued that organisations would benefit from targeting interventions at this group of staff in the first instance (Borrill & Haynes, 1999). Cox (1993) has criticised the field of occupational stress intervention for having too strong a focus on caring for the individual at the cost of addressing the organisational role; for interventions lacking or having a weak theoretical basis; for missing the step of audit or "problem diagnosis" before intervention; for focusing on single types of intervention rather than a range of interventions targeted to the organisation in question; and for not undertaking proper evaluation of every intervention. A risk assessment process based

STRESSORS**Primary
Preventative
Organisational**

Policy development
 Audit
 Health promotion
 Staff participation
 Good communication
 Job-related control
 Training
 Task re-design
 Enhancing the physical environment
 Clear roles
 Flexible work schedules
 Feedback
 Selection

MEDIATORS/MODERATORS**Secondary
Protective
Group**

Stress awareness
 Stress management
 Personal coping
 Social support
 People skills
 Supervision
 Problem-solving
 Team working

STRAINS**Tertiary
Treatment/
Rehabilitation
Individual**

Occupational health
 Counselling
 Rehabilitation
 Return to work programmes
 Re-deployment
 Reducing negative arousal

Figure 9.1: An example of a comprehensive model of intervention in occupational stress

on the control cycle, i.e. “the systematic process by which hazards are identified, risks analysed and managed and workers protected”, is proposed (Cox *et al.*, 2000 & 2002).

The object of the risk assessment is to establish an association between hazards and health outcomes and to evaluate the risk to health from exposure to a hazard. A hazard has been defined as “the intrinsic property or ability of something with the potential to cause harm” and risk has been defined as “the likelihood that the potential for harm will be attained under the conditions of use and/or exposure, and the possible extent of the harm” (European Commission, 1996).

The role of the psychologist is crucial in the furtherance of this field. Dollard & Melzer (1999) stated that “Psychologists who continue to treat work stress client problems individually and outside of the context of their work environment may be in the service of the status quo and unsuccessful in effecting long term change in the alleviation of stress. Also, individual treatments may erroneously assume that upsetting emotions attached to difficult work conditions are not adaptive” (p. 246). They propose the use of the conductivity model (Karasek & Theorell, 1999) to help improve psychological services to workers and organisations. Simply put, this model involves enhanced communication with consumers leading to innovative service developments which meet client needs.

The UK health service relies on its staff perhaps in a way and to an extent which other industries do not. As well as having a responsibility towards the health and well-being of its staff, the NHS also has a responsibility towards the health and well-being of patients. It appears that the UK health service is well-served in terms of equipment and the application of medical advances in comparison to many other countries, but

does this lead to the best care? In illustration of this point, a survey undertaken in 545 hospitals across the US (Regrut, 1997) found that the factors which were most strongly associated with patient satisfaction concerned aspects of staff sensitivity and attitude. This has been interpreted in claims that the “best way to improve patient satisfaction is to improve the satisfaction and well-being of health care workers” (Murphy, 1999).

CHAPTER 10:

References

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APPENDIX I:

Introductory and Reminder Letters

Introductory Letter

[ORGANISATION NAME] NHS TRUST
EMPLOYEE SURVEY

Dear Colleague

[Organisation name] NHS Trust is committed to enhancing the well-being of its employees at work. As part of this policy **[Organisation name] NHS Trust**, in combination with the **[Area] Clinical Psychology Department**, the **[Area] Occupational Health and Safety Service** and the **University of Stirling**, is undertaking a survey of working patterns, job satisfaction and work pressures amongst its employees. The results will contribute to the design of ways of increasing staff job satisfaction and reducing undue work pressures wherever possible.

In order to achieve this, I am writing to request your assistance by completing the enclosed questionnaire. This questionnaire has been sent to only two-thirds of employees and your name has been chosen at random from personnel records to represent your staff group. You will find enclosed a prepaid envelope for the return of the completed questionnaire to the University of Stirling where all information received will be treated in the **strictest confidence**. In order to adhere to ethical requirements and the Data Protection Act, responses will be **anonymous** and individuals will **not be identifiable** from the data. Analysis will be conducted outwith **[Organisation name] NHS Trust** at the **University of Stirling**.

I am well aware of the many demands already placed upon your time but I would be grateful if you would take the **30 minutes** (approximately) required to complete this questionnaire. You will appreciate, as you have been chosen to represent your staff group, that an accurate reflection of the views of employees will only be achieved through a high response rate. I would therefore be grateful if you could return your completed questionnaire, within 7 to 10 days of receipt, to **Catherine Kilfedder, Clinical Psychologist**, in the prepaid envelope enclosed.

I must emphasise that participation is completely **voluntary, anonymous and confidential** and that non-participation will have no effect on your current position. However, I sincerely hope that you will take this opportunity to express your views and represent your staff group. If you have any queries please do not hesitate to contact **Catherine Kilfedder** on ☎ **[Telephone number]**.

It is intended that all staff will receive feedback on the results of this research. To this end there is space at the end of the questionnaire for you to write down how you would like this feedback.

Many thanks for your co-operation.

Yours faithfully

Catherine Kilfedder, Occupational Health Clinical Psychologist

Reminder Letter

Dear Colleague

Re: [Organisation name] NHS Trust Employee Survey

My apologies for bothering you again at home but you may remember that a few weeks ago you received the above questionnaire in the post with a prepaid envelope for it's return to the University of Stirling.

If you have already returned the completed questionnaire many thanks and please ignore this letter - it is a standard reminder letter which is going out to all the staff who made up the survey sample.

If you have not yet returned the completed questionnaire then could I ask you to do so. Your responses are invaluable in representing the views of your occupational group and providing information on which to base any interventions in the area of occupational stress and well-being.

Many thanks for your help.
Yours sincerely

Catherine Kilfedder, Occupational Health Clinical Psychologist.

APPENDIX II:

Study Questionnaire

**[ORGANISATION NAME] NHS
TRUST**

EMPLOYEE SURVEY

This is your confidential questionnaire.

In the course of completing your questionnaire please make sure that you answer all the questions. The questions are printed on both sides of the paper.

Please return the questionnaire in the enclosed prepaid envelope in the next 7 to 10 days.

Thank you for your co-operation.

Completed by all participants

The following are questions concerning you, your family, and your job. Please reply by circling the appropriate answer or by writing in the information required. Please answer all the questions.

Questions about you:

1. Sex: Male Female 2. Age (in years): _____
3. Marital status:
- Single Cohabiting Married Separated Divorced Widowed
4. Academic level reached:
- | | | |
|--------------------------|-----------------------------|-----------------------------------|
| No formal qualifications | O grade/GCSE/
equivalent | A level/Higher/SYS/
equivalent |
| HND/HNC/equivalent | Degree/equivalent | Higher degree |

Questions about your partner:

5. Your partner's status:
- | | | | | |
|----------------------|----------------------|------------|----------------|-------------------|
| Working
full-time | Working
part-time | Unemployed | Unable to work | Not
applicable |
|----------------------|----------------------|------------|----------------|-------------------|

Questions about your children:

6. Number of children living at home (Number required):
- | | | | |
|-------------------|-------|----------------------------|-------|
| Under 5 years old | _____ | 5-18 years old | _____ |
| Over 18 years old | _____ | No children living at home | _____ |

Questions about your job:

7. Professional group:
- | | | | | | |
|-------------|-------------|--------------------|------------|-----------|-------------|
| Nursing(RN) | Nursing(EN) | Nursing(other) | Medicine | Dental | Scientific |
| P.A.M. | Psychology | Admin/
clerical | Management | Ancillary | Works/trade |
8. Job grade (if applicable): _____
9. Job base: _____
10. If you have undergone professional training, for how long have you been qualified (in years): _____
11. Do you work: Full-time Part-time
12. What was the total number of hours you worked in the past week: _____

Questions about your job (continued):

13. Do you work a shift system: YES NO
(If NO go to question 15)
14. If you do work a shift system, which of the following systems usually applies in your current place of work (tick one):
- Flexible (individuals are consulted over preferred hours)..... _____
- Regular (a fixed cycle repeats)..... _____
- Irregular (no regular pattern)..... _____
15. How long have you been in your current post (in years and months): _____
16. How long have you been employed by this organisation, i.e. [Organisation name] NHS Trust and previously [Area] Health Board (in years and months): _____
17. In total, how many days off sick have you had over the past 6 months: _____
18. How many separate episodes of sickness do these days cover: _____

In the following section, please indicate to what extent the following items are true for you in your present job by entering the number of your choice from the scale below:

1	2	3	4	5	6	7
Very little						A great extent

- To what extent can you predict what job demands will be placed on you each day..... _____
- To what extent do unexpected events occur on your job..... _____
- To what extent do you know why others at work act as they do..... _____
- To what extent do you understand the reason organisational changes occur..... _____
- To what extent do you understand the reasons why job-related decisions are made..... _____
- To what extent are you faced with unexpected decisions concerning your work..... _____
- To what extent do you have influence over the things that affect you on the job..... _____
- To what extent do you have input in deciding what tasks or parts of tasks you will do..... _____

1	2	3	4	5	6	7
Very little						A great extent

- 9. To what extent do you have the opportunity to take part in making job-related decisions that affect you..... _____
- 10. To what extent can you set your own work deadlines..... _____
- 11. To what extent does your job allow you the opportunity for independent thought and action..... _____
- 12. To what extent do you control the pace and scheduling of your work.... _____

In this section please indicate how often in your present job you face problems like the ones listed below ?

1	2	3	4	5
Never	Very rarely	Sometimes	Fairly often	Very often

- 1. Two or more of your superiors give you conflicting instructions..... _____
- 2. One of your superiors asks you to do tasks which conflict with one another..... _____
- 3. You receive requests from superiors which conflict with other work you have to do..... _____

These questions deal with different aspects of work. Please indicate how often these aspects appear in your current job.

1	2	3	4	5
Never	Very rarely	Sometimes	Fairly often	Very often

- 1. How often are you clear on what your job responsibilities are..... _____
- 2. How often can you predict what others will expect of you on the job..... _____
- 3. How much of the time are your work objectives well defined..... _____
- 4. How often are you clear about what others expect of you on the job..... _____

In the following section, please indicate how certain or uncertain you are about each of the following items by entering the number of your choice from the scale below:

1	2	3	4
Very uncertain	A little uncertain	Fairly certain	Very certain

- 1. How certain are you about what your future career picture looks like..... _____

1	2	3	4
Very	A little	Fairly	Very
uncertain	uncertain	certain	certain

2. How certain are you of the opportunities for promotion and advancement which will exist in the next few years..... _____
3. How certain are you about whether your job skills will be of use and value five years from now..... _____
4. How certain are you about what your responsibilities will be six months from now..... _____

This section of the survey is concerned with any concerns/worries you may have in your life outside work. Please circle the answers most appropriate for you.

1. Do you currently have any major concerns/worries with regard to your housing situation ?

YES NO

If yes, do you feel that this impairs your ability to function well at work ?

Not at all A little Quite a lot A great deal

2. Do you currently have any major financial concerns/worries?

YES NO

If yes, do you feel that this impairs your ability to function well at work ?

Not at all A little Quite a lot A great deal

3. Do you currently have any concerns/worries regarding your spouse/partner ?

YES NO

If yes, do you feel that this impairs your ability to function well at work ?

Not at all A little Quite a lot A great deal

4. Do you currently have any concerns/worries regarding your child care arrangements ?

YES NO

If yes, do you feel that this impairs your ability to function well at work ?

Not at all A little Quite a lot A great deal

5. Do you currently have any difficulties pursuing your leisure/social interests ?

YES

NO

If yes, do you feel that this impairs your ability to function well at work ?

Not at all

A little

Quite a lot

A great deal

This section lists a number of potential coping strategies which you are required to rate in terms of the extent to which you actually use them as ways of coping with work stress. Please reply by entering the number of your answer from the scale shown.

6	5	4	3	2	1
Very extensively used by me					Never used by me
1. Deal with the problems immediately as they occur.....					_____
2. Try to recognise my own limitations.....					_____
3. 'Buy time' and stall the issue.....					_____
4. Look for ways to make the work more interesting.....					_____
5. Reorganise my work.....					_____
6. Seek support and advice from my superiors.....					_____
7. Resort to hobbies and pastimes.....					_____
8. Try to deal with the situation objectively in an unemotional way.....					_____
9. Effective time management.....					_____
10. Suppress emotions and try not to let the stress show.....					_____
11. Having a home that is a 'refuge'					_____
12. Talk to understanding friends.....					_____
13. Deliberately separate 'home' and 'work'					_____
14. 'Stay busy'					_____
15. Plan ahead.....					_____
16. Not 'bottling things up' and being unable to release energy.....					_____
17. Expand interests and activities outside work.....					_____
18. Have stable relationships.....					_____

6 Very extensively used by me	5	4	3	2	1 Never used by me
19. Use selective attention (concentrating on specific problems).....					_____
20. Use distractions (to take your mind off things).....					_____
21. Set priorities and deal with problems accordingly.....					_____
22. Try to 'stand aside' and think through the situation.....					_____
23. Resort to rules and regulations.....					_____
24. Delegation.....					_____
25. Force one's behaviour and lifestyle to slow down.....					_____
26. Accept the situation and learn to live with it.....					_____
27. Try to avoid the situation.....					_____
28. Seek as much social support as possible.....					_____

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This section concerns aspects of support in your present job. Please reply by entering the number of your answer from the scale shown below:

0	1	2	3
Not at all	A little	Somewhat	Very much

A) How much can each of these people be relied on when things get tough at work ?

- 1. Your immediate supervisor (boss)..... _____
- 2. Other people at work..... _____
- 3. Your spouse/partner (if applicable)..... _____
- 4. Your friends and relatives..... _____

B) How much is each of the following people willing to listen to your work-related problems?

- 5. Your immediate supervisor (boss)..... _____
- 6. Other people at work..... _____

0	1	2	3
Not at all	A little	Somewhat	Very much

7. Your spouse/partner (if applicable)..... _____

8. Your friends and relatives..... _____

C) How much is each of the following people helpful to you in getting your job done ?

9. Your immediate supervisor (boss)..... _____

10. Other people at work..... _____

D) Please indicate, using the scale below, how true each of the following statements is of your immediate supervisor (boss).

0	1	2	3
Not at all true	Not too true	Somewhat true	Very true

11. My supervisor (boss) is competent in doing his/her job..... _____

12. My supervisor (boss) is very concerned about the welfare of those under him/her..... _____

13. My supervisor (boss) goes out of his/her way to praise good work..... _____

How often do you experience the following in your present job:

5	4	3	2	1
Once a day	Once a week	Once a month	Once a year	Never

1. Exhaustion..... _____

2. Getting tired quickly..... _____

3. Muscle tension (especially in neck and shoulders)..... _____

4. Back pains..... _____

5. Muscle aches not due to exercise..... _____

6. Fatigue..... _____

7. Headaches..... _____

8. Physical weakness..... _____

9. Effort to breathe or breathlessness..... _____

10. Giddiness or dizziness..... _____

5	4	3	2	1
Once	Once	Once	Once	Never
a day	a week	a month	a year	

- 11. Heart pounding, palpitations or heart pains..... _____
- 12. Muscle twitches, blinking, trembling hands or face tics..... _____
- 13. Itching, irritation or numbness of the skin..... _____
- 14. Stomach upset, wind, bowel aches or diarrhoea..... _____
- 15. Sweating not due to heat or exercise..... _____
- 16. Viral infections (nose, throat, sinus, chest)..... _____
- 17. Voice disturbance (e.g. hoarseness, clearing of throat)..... _____

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way during the past few weeks.

Use the following scale to record your answers:

1	2	3	4	5
Very slightly	A little	Moderately	Quite a bit	Extremely
or not at all				

- 1. Interested..... _____
- 2. Distressed..... _____
- 3. Excited..... _____
- 4. Upset..... _____
- 5. Strong..... _____
- 6. Guilty..... _____
- 7. Scared..... _____
- 8. Hostile..... _____
- 9. Enthusiastic..... _____
- 10. Proud..... _____
- 11. Irritable..... _____
- 12. Alert..... _____
- 13. Ashamed..... _____

1	2	3	4	5
Very slightly or not at all	A little	Moderately	Quite a bit	Extremely

- 14. Inspired..... _____
- 15. Nervous..... _____
- 16. Determined..... _____
- 17. Attentive..... _____
- 18. Jittery..... _____
- 19. Active..... _____
- 20. Afraid..... _____

In this section the term recipients refers to the people for whom you provide your service, care, treatment, or instruction. Please indicate for each item how frequently you feel this way in your present job using the scale below:

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

- 1. I feel emotionally drained from my work..... _____
- 2. I feel used up at the end of the workday..... _____
- 3. I feel fatigued when I get up in the morning and have to face another day on the job..... _____
- 4. I can easily understand how my recipients feel about things..... _____
- 5. I feel I treat some recipients as if they were impersonal objects..... _____
- 6. Working with people all day is really a strain for me..... _____
- 7. I deal very effectively with the problems of my recipients..... _____
- 8. I feel burned out from my work..... _____
- 9. I feel I'm positively influencing other people's lives through my work.... _____
- 10. I've become more callous toward people since I took this job..... _____
- 11. I worry that this job is hardening me emotionally..... _____
- 12. I feel very energetic..... _____

0	1	2	3	4	5	6
Never	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

- 13. I feel frustrated by my job..... _____
- 14. I feel I'm working too hard on my job..... _____
- 15. I don't really care what happens to some recipients..... _____
- 16. Working with people directly puts too much stress on me..... _____
- 17. I can easily create a relaxed atmosphere with my recipients..... _____
- 18. I feel exhilarated after working closely with my recipients..... _____
- 19. I have accomplished many worthwhile things in this job..... _____
- 20. I feel like I'm at the end of my rope..... _____
- 21. In my work, I deal with emotional problems very calmly..... _____
- 22. I feel recipients blame me for some of their problems..... _____

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This section concerns your health over the last few weeks. Please answer ALL the questions simply by circling the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past. It is important that you try to answer ALL the questions.

Have you recently.....

- | | | | | |
|---|--------------------|--------------------|------------------------|----------------------|
| 1. been able to concentrate whatever you're doing? | Better than usual | Same as usual | Less than usual | Much less than usual |
| 2. lost much sleep over worry? | Not at all | No more than usual | Rather more than usual | Much more than usual |
| 3. felt that you are playing a useful part in things? | More so than usual | Same as usual | Less useful than usual | Much less useful |
| 4. felt capable of making decisions about things? | More so than usual | Same as usual | Less so than usual | Much less than usual |
| 5. felt constantly under strain? | Not at all | No more than usual | Rather more than usual | Much more than usual |

Have you recently.....

6. felt you couldn't overcome your difficulties?	Not at all	No more than usual	Rather more than usual	Much more than usual
7. been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
8. been able to face up to your problems?	More so than usual	Same as usual	Less so than usual	Much less able
9. been feeling unhappy and depressed?	Not at all	No more than usual	Rather more than usual	Much more than usual
10. been losing confidence in yourself?	Not at all	No more than usual	Rather more than usual	Much more than usual
11. been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
12. been feeling reasonably happy, all things considered?	More so than usual	About same as usual	Less so than usual	Much less than usual

The next set of items deals with various aspects of your job. Please indicate how satisfied or dissatisfied you feel with each of these features of your present job by using the scale below.

1	2	3	4	5	6	7
Extremely dissatisfied	Very dissatisfied	Moderately dissatisfied	Not sure	Moderately satisfied	Very satisfied	Extremely satisfied

- 1. The physical work conditions..... _____
- 2. The freedom to choose your own method of working..... _____
- 3. Your fellow workers..... _____
- 4. The recognition you get for good work..... _____
- 5. Your immediate boss..... _____
- 6. The amount of responsibility you are given..... _____
- 7. Your rate of pay..... _____
- 8. Your opportunity to use your abilities..... _____
- 9. Industrial relations between management and workers..... _____
- 10. Your chance of promotion..... _____
- 11. The way this organisation is managed..... _____

- | | | | | | | |
|---------------------------|----------------------|----------------------------|----------|-------------------------|-------------------|------------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| Extremely
dissatisfied | Very
dissatisfied | Moderately
dissatisfied | Not sure | Moderately
satisfied | Very
satisfied | Extremely
satisfied |
12. The attention paid to suggestions you make..... _____
 13. Your hours of work..... _____
 14. The amount of variety in your job..... _____
 15. Your job security..... _____
 16. Now, taking everything into consideration, how do you feel about
your job as a whole ?..... _____

Completed by Nurses only

Below is a list of situations that commonly occur in a healthcare setting. For each item indicate by entering the appropriate number on the line opposite the item how often on your present job you have found the situations to be stressful.

- | | | | |
|--------------------|---------------------------|-------------------------|------------------------------|
| 0 | 1 | 2 | 3 |
| Never
stressful | Occasionally
stressful | Frequently
stressful | Very frequently
stressful |
1. Performing procedures that patients experience as painful..... _____
 2. Feeling helpless in the case of a patient who fails to improve..... _____
 3. Inadequate information from a doctor regarding the medical condition of a
patient..... _____
 4. Breakdown of equipment..... _____
 5. Criticism by a doctor..... _____
 6. Conflict with a supervisor..... _____
 7. Listening or talking to a patient about his/her approaching death..... _____
 8. Lack of an opportunity to talk openly with other unit personnel about problems
on the unit..... _____
 9. The death of a patient..... _____
 10. Conflict with a doctor..... _____
 11. Fear of making a mistake in treating a patient..... _____
 12. Lack of an opportunity to share experiences and feelings with other personnel
on the unit..... _____
 13. The death of a patient with whom you developed a close relationship..... _____

- | 0
Never
stressful | 1
Occasionally
stressful | 2
Frequently
stressful | 3
Very frequently
stressful |
|--|--------------------------------|------------------------------|-----------------------------------|
| 14. Doctor not being present when a patient dies..... | | | _____ |
| 15. Disagreement concerning the treatment of a patient..... | | | _____ |
| 16. Feeling inadequately prepared to help with the emotional needs of a patient's family..... | | | _____ |
| 17. Lack of an opportunity to express to other personnel on the unit any negative feelings towards patients..... | | | _____ |
| 18. Being asked a question by a patient for which I do not have a satisfactory answer..... | | | _____ |
| 19. Making a decision concerning a patient when a doctor is unavailable..... | | | _____ |
| 20. Floating to other units that are short-staffed..... | | | _____ |
| 21. Watching a patient suffer..... | | | _____ |
| 22. Difficulty in working with a particular nurse (or nurses) outside the unit..... | | | _____ |
| 23. Feeling inadequately prepared to help with the emotional needs of a patient..... | | | _____ |
| 24. Criticism by a supervisor..... | | | _____ |
| 25. Unpredictable staffing and scheduling..... | | | _____ |
| 26. A doctor ordering what appears to be inappropriate treatment for a patient..... | | | _____ |
| 27. Too many non-nursing tasks required, such as clerical work..... | | | _____ |
| 28. Not enough time to provide emotional support to a patient..... | | | _____ |
| 29. Difficulty in working with a particular nurse (or nurses) on the unit..... | | | _____ |
| 30. Not enough time to complete all of my nursing tasks..... | | | _____ |
| 31. A doctor not being present in a medical emergency..... | | | _____ |
| 32. Not knowing what a patient or a patient's family ought to be told about the patient's condition and its treatment..... | | | _____ |
| 33. Uncertainty regarding the operation and functioning of specialised equipment.. | | | _____ |
| 34. Not enough staff to adequately cover the unit..... | | | _____ |

Using the scale below, please indicate how much of your time in your present job is actually taken up with the following:

- | | | | |
|------|----------|-------------|--------------|
| 0 | 1 | 2 | 3 |
| None | A little | Quite a lot | A great deal |
1. Patient contact..... _____
 2. Use of physically invasive procedures..... _____
 3. Work that is routine and scheduled..... _____
 4. Work with untrained and/or newly registered staff..... _____
 5. Administrative duties..... _____
 6. Contact with patient's families..... _____
 7. Use of high tech. equipment..... _____
 8. Non-nursing duties..... _____

Completed by medics and P.A.M's only

Below is a list of situations that commonly occur in a healthcare setting. For each item indicate by entering the appropriate number on the line opposite the item how often in your present job you have found the situations to be stressful.

- | | | | |
|-----------------|------------------------|----------------------|---------------------------|
| 0 | 1 | 2 | 3 |
| Never stressful | Occasionally stressful | Frequently stressful | Very frequently stressful |
1. Feeling ultimately responsible for patient outcomes..... _____
 2. Fearing that a mistake will be made in the treatment of a patient..... _____
 3. Caring for the emotional needs of patients..... _____
 4. Dealing with uncooperative, anxious, abusive, or otherwise difficult patients and relatives..... _____
 5. Pressure for definite diagnosis and treatment plan from patients or relatives..... _____
 6. Threat of litigation..... _____
 7. Being on call..... _____
 8. Coping with the suffering or death of patients..... _____
 9. Having so much work to do that everything cannot be done well..... _____
 10. Being interrupted by phone calls or people while performing job duties..... _____

- | | | | |
|-------------------------|--------------------------------|------------------------------|-----------------------------------|
| 0
Never
stressful | 1
Occasionally
stressful | 2
Frequently
stressful | 3
Very frequently
stressful |
|-------------------------|--------------------------------|------------------------------|-----------------------------------|
11. Finding time for research and teaching demands..... _____
 12. Meeting deadlines for reports and publications..... _____
 13. Having job duties which conflict with family responsibilities..... _____
 14. Lacking the resources (staff or equipment) to adequately meet patients' needs.. _____
 15. Experiencing conflicts with managers and/or administrators..... _____
 16. Trying to meet expectations from patients, public and media for high quality medical care while constrained by a lack of resources..... _____
 17. Interference from non-health professionals in determining how you practice your profession..... _____
 18. Keeping up with new developments in order to maintain professional competence..... _____
 19. Critical peer group pressure..... _____
 20. Experiencing conflicts with co-workers..... _____
 21. Need to derive intellectual and educational growth..... _____
 22. Trying to maintain self-confidence..... _____
 23. Receiving inadequate feedback on your job performance from colleagues and patients..... _____
 24. Lacking opportunities to share feelings and experiences with colleagues..... _____
 25. Feeling that opportunities for advancement on the job front are poor..... _____

Using the scale below please indicate how much of your time in your present job is actually taken up with the following:

- | | | | |
|-----------|---------------|------------------|-------------------|
| 0
None | 1
A little | 2
Quite a lot | 3
A great deal |
|-----------|---------------|------------------|-------------------|
1. Clinical duties..... _____
 2. Patient contact..... _____
 3. Use of physically invasive procedures..... _____
 4. Direct clinical responsibility..... _____

0 None	1 A little	2 Quite a lot	3 A great deal
5. Work routine and scheduled.....			_____
6. Work with untrained and/or newly registered staff.....			_____
7. Teaching responsibilities.....			_____
8. Administrative duties.....			_____

Completed by management and support staff only

Below is a list of situations that commonly occur in the course of work. For each item indicate by entering the appropriate number from the following scale how often in your present job you have found the situations to be a source of pressure.

1 Very definitely is not a source	2	3	4	5	6 Very definitely is a source
1. Having far too much work to do.....					_____
2. Lack of power and influence.....					_____
3. Overpromotion - being promoted beyond my level of ability.....					_____
4. Managing or supervising the work of other people.....					_____
5. Coping with office politics.....					_____
6. Rate of pay (including perks and fringe benefits).....					_____
7. Personal beliefs conflicting with those of the organisation.....					_____
8. Underpromotion - working at a level below my level of ability.....					_____
9. Keeping up with new techniques, ideas, technology or innovations, or new challenges.....					_____
10. Ambiguity in the nature of job role.....					_____
11. Attending meetings.....					_____
12. Lack of social support by people at work.....					_____
13. Having to work very long hours.....					_____
14. Conflicting job tasks and demands in the role I play.....					_____

1 Very definitely is not a source	2	3	4	5	6 Very definitely is a source
15. Inability to delegate.....					_____
16. Threat of impending redundancy or early retirement.....					_____
17. Feeling isolated.....					_____
18. A lack of encouragement from superiors.....					_____
19. Being undervalued.....					_____
20. Having to take risks.....					_____
21. Changing jobs to progress with career.....					_____
22. Too much or too little variety in work.....					_____
23. Working with those of the opposite sex.....					_____
24. Business travel and having to live in hotels.....					_____
25. Misuse of time by other people.....					_____
26. Simply being seen as a 'boss'.....					_____
27. Unclear promotion prospects.....					_____
28. The accumulative effects of minor tasks.....					_____
29. Changes in the way you are asked to do your job.....					_____
30. Simply being 'visible' or 'available'.....					_____
31. Factors not under your direct control.....					_____
32. Dealing with ambiguous or 'delicate' situations.....					_____
33. Having to adopt a negative role (such as sacking someone).....					_____
34. An absence of any potential career advancement.....					_____
35. Attaining your own personal levels of performance.....					_____
36. Making important decisions.....					_____
37. 'Personality' clashes with others.....					_____
38. Implications of mistakes you make.....					_____
39. Opportunities for personal development.....					_____

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Using the scale below please indicate how much of your time in your present job is taken up with the following:

0	1	2	3
None	A little	Quite a lot	A great deal

- 1. Managing/supervising others..... _____
- 2. Using new technology..... _____
- 3. Attending meetings..... _____
- 4. Administrative tasks..... _____
- 5. Contact with the general public..... _____
- 6. Patient contact..... _____
- 7. Work that is routine and scheduled..... _____
- 8. Putting new changes/policies into practice..... _____

Completed by all participants

If there are any additional comments you would like to make please do so in the space below:

.....

.....

.....

.....

.....

.....

.....

It will obviously not be possible to provide individual feedback on the results of this research. Do you have any suggestions as to how feedback can be given to staff?

.....

Many thanks for completing this questionnaire. Please return it in the enclosed prepaid envelope as soon as possible.