

UNIVERSITY OF SOUTHAMPTON

**HOLDING THE LINE: AN EXPLORATION OF STAFF PERCEPTIONS OF
STRESS IN A DEVELOPING
HEALTH PROMOTING UNIVERSITY**

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Doctor of Education

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ABSTRACT

FACULTY OF SOCIAL SCIENCES
RESEARCH AND GRADUATE SCHOOL OF EDUCATION

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**HOLDING THE LINE: AN EXPLORATION OF STAFF PERCEPTIONS OF
STRESS IN A DEVELOPING HEALTH PROMOTING UNIVERSITY**

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The principal aim of this thesis was to explore within a developing health promoting university (HPU) the current factors that staff perceived to contribute towards and mediate against work stress. A subsidiary aim was to make some comparisons with a health survey conducted when the HPU was instigated some four years earlier. A secondary aim was to put forward recommendations and priorities to act on, in order to reduce stress and improve the health of staff.

The findings of a randomised quantitative study featured all grades of university staff from the various support and academic positions. The Perceived Stress Scale (PSS) enabled staff stress to be measured by examining gender and position variations with statistical correlation of work stressors. A triad of stress factors, namely unpredictability, uncontrollability and work overload were observed with university staff having higher PSS scores than that found in a general population.

The perceptions of stress reduced slightly over the four years of development of the HPU initiative, which appears to be 'holding the line' with regard to staff stress. This was despite the increasing perceptions around work demand verified in the working patterns reported by staff. Stress perceptions around workload, decision-making and communication featured as the top stressors. Control over demand and autonomy in decision latitude supported Karasek's demand control hypothesis.

This research suggests that university work needs to be organised to better support the work-life balance of staff, which is a major issue affecting levels of stress. Recommendations and actions are made to address some of the structural and cultural working practices that seem to perpetuate stress and provide barriers to staff health promotion opportunities at work.

This study has shown the usefulness of adopting a 'settings based' approach to health promotion and has highlighted some of the driving and restraining factors to such an initiative. Working with the staff in their setting provides opportunities to embed health further into the culture and processes of university life. The challenge for all university staff is to reduce stress, so that stressed staff are not the victims of change but the creators of healthier outcomes.

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LIST OF ABBREVIATIONS

APR	Annual Participation Rate
AUT	Association of University Teachers
CHD	Coronary Heart Disease
DfEE	Department of Education and Employment
DoH	Department of Health
EATCGP	European Agency Topic Centre for Good Practice (Work and Health)
GHQ	General Health Questionnaire
HA	Health Authority
HDA	Health Development Agency
HEA	Health Education Authority
HEIs	Higher Education Institutions
HImP	Health Improvement Programme
HPA	Health Promotion Adviser
HPU	Health Promoting University
HSE	Health and Safety Executive
ICT	Information Communication Technology
MBA	Master of Business Administration
MIB	Management Information Briefing
NA	Negative Affectivity
NATFHE	National Association of Teachers in Further and Higher Education
NHS	National Health Service
PA	Positive Affectivity
PSS	Perceived Stress Scale
QAA	Quality Assurance Agency
RAE	Research Academic Exercise
SPSS	Statistical Package for Social Sciences
TQA	Teaching Quality Assessment
UCEA	Universities and Colleges Employers Association
UK	United Kingdom
USA	Universities Safety Association
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION TO THIS THESIS

THE BACKGROUND TO THIS STUDY

Organisational change

This research sets out to explore the world of work from the perspective of the staff in a university striving to become a Health Promoting University (HPU). In doing so, it builds on a staff health survey carried out in 1996 and explores factors in work stress, perceptions of stress and lifestyle issues that constrain or enable health to be better promoted in a new (post 1992) university.

According to Schein (1992), all forms of learning usually start with some form of dissatisfaction or frustration generated by information that questions hopes and expectations or threatens basic needs. As a new university, the continuity of change provided the *raison d'être* for major restructuring featuring some strategic rationalization as well as growth. Student numbers had grown by 50% and staff numbers by 16% within four years of the former Eddington Polytechnic (a pseudonym) becoming a university.

A perceived health problem

University staff are integral to the student learning experience underpinning the organisation. When asked by the Staff Welfare Liaison Committee in 1995, some staff articulated a concern that stress at work was an issue that affected the quality of their lives. This became expressed as a 'need' through the university committee structure (HPU, 1995) and was examined in a staff health survey undertaken in 1996.

By exploring the expressed need of 'work-stress' put forward by university staff, this research involves staff in an assessment of their work, the services of the university and thus starts where people are socially and emotionally in their work setting

(Weare, 1992). As a guiding principle, this research will use the community perspective of the staff for setting priorities for the HPU (Ong and Humphris, 1994) and thus adopt a bottom-up approach to health needs (Downie, Tannahill and Tannahill, 1996).

Much of the literature on health need, or needs assessment suggests that in an attempt to objectify a subjective desire adding a normative element creates 'need' (Armstrong, 1982; Bradshaw, 1972, 1994; Naidoo and Wills, 1994; Gilmore and Campbell, 1996). In other words, 'needs' do not exist as objective facts in a university amongst the staff. Rather they are actively constructed, and it is argued that health and health promotion specialists retain power and control through the act of creating needs. 'Need' in the context of this thesis refers to a technical public health term that incorporates the wider social and environmental determinants of health at work (Victor, 1995; Naidoo and Wills, 2000; Watson 2002). Therefore, the 'felt' need identified and 'expressed' by staff around work stress was selected for exploration as a 'normative' need as part of the work of the author. Pickin and St Leger (1993) suggest that:

'...essentially health needs assessment is the process of enabling the relationship between health problems in a community [university] and the resources available to address those problems in order to achieve a desired outcome.' (p.6).

Perceptions of health and stress

The health behaviour of staff at work is likely to be related to their perceptions of health and stress and their attitude towards the university. Mullins and Hicks (1996) state that 'there is no such thing as reality – only the individual's perception or interpretation of reality' (p.138). It is therefore reasonable to argue, that the interpretation of the same work situation by two individuals might be different. When examining work stress, Cox (2000a; 2000b) claims that the chief emphasis must be placed on the staffs' subjective experience of work stressors. Gaining a better understanding of staffs' perceptions may facilitate the HPU to enable staff to achieve better health with a reduction in stress perceptions.

Therefore, the aims of this thesis are:

- 1. To explore within a developing health promoting university the current factors that staff perceive as contributing towards or mediating against work stress. A subsidiary aim is to make some tentative comparisons with a health survey conducted in 1996.**

- 2. To put forward recommendations and priorities for action to improve the health of staff.**

Why this research is important

Much of the evidence for health promotion in universities remains anecdotal and tends to be dominated by student centred issues (Maudsley, 1998; Dooris, 2001). All grades of university staff have an influence on the totality of the institution, its form and operational function and hence the experience of staff and students. For this reason, staff health perception, their lifestyle behaviour, perceptions of work stress and beliefs about the organisation will be singled out and focused on within this thesis.

The health promoting role of the author in this research

The author of this study is a lecturer in health promotion. In the summer of 1997, he was appointed on a part-time basis as the Health Promotion Adviser (HPA) to the University of Eddington. The HPA role allowed the author to network within, across and externally to the University permitting access to all grades of staff enabling a picture of their work and health experience to be gained. Throughout the preparation of this thesis, the author has been motivated by what Rappaport (1986), Tones (1992; 1998a; 1998b) and Stein (1997) describe as 'empowerment ideology'. This ideology required three things. Firstly, to learn more about and substantiate my knowledge concerning factors that may contribute to work stress. Secondly, to learn about how staff are handling their own work problems especially those perceived by them as stressful. Finally then, and central to the empowerment approach, to link back to where the staff are by sharing the findings from this research with them, their managers and organisational leaders to help shape the working environment to develop healthier outcomes.

CHAPTER TWO

RATIONALE

The goals of this chapter

The goals of this chapter are to summarise and integrate the extant literatures dealing with workplace health and stress to provide the rationale to meet the defined thesis aims concluded in Chapter One. This rationale will formulate constituent objectives that provide a framework for the empirical investigation that follows.

As various issues are identified of central importance for staff health promotion in a university, specific research objectives will be indicated in the text by ***indented, bold italics.***

THE HEALTH PROMOTING UNIVERSITY (HPU) INITIATIVE

The previous chapter highlighted that the University of Eddington is a developing HPU and provides the context for this research within a healthy setting.

HEALTH AT WORK

Healthy settings

Settings based approaches for health, probably originated from the Lalonde Report (1974) and have been encouraged in a host of strategic conferences and reports since then (Health for All, WHO, 1985, 1992; Ottawa Charter, 1986; Jakarta Declaration, WHO, 1997a). The integral nature of the healthy setting takes account of the physical, mental, environmental and social context in which individuals live and work (Dugdill and Springett, 1994; Williams, 1994; Bennett and Murphy 1997; Chu, *et al* 2000). Importantly for workplace health promotion, the setting also includes the ideological context of work and its organisation (Eakin, 2000). For these reasons, the settings based approach has been considered as the most fully worked version of an integrative approach to health promotion in practice (Weare, 1998). For example, within educational settings a European Network of Health Promoting Schools

(ENHPS) has existed since 1992 (WHO, 1999). At a national level in England, the National Healthy School Standard (DfEE and DOH, 1999) for schools have evoked a high degree of enthusiasm at macro, meso and micro levels in the management of school based health promotion (Lister-Sharp *et al*, 1999; Tones and Tilford, 2001).

According to Beattie (1995a; 1995b), the concept of a health promoting university is recent, being less than eight years old in 2002. In England, around seven universities have developed settings based approaches to health promotion.

In July 1997, the European Office of the World Health Organisation hosted two days of round table meetings at the University of Lancaster in which the author participated. This meeting put forward the strategic criteria for a new WHO European network of health promoting universities based on developing and supporting healthy lifestyles within university settings. An important goal of such a setting is for the workforce to become engaged in health promoting activity and perceive the benefit of health gain (Bamford, 1995; Tones, 1996). It was foreseen by delegates, that vital to the success and sustainability of this initiative, would be gaining the commitment of senior university management to take up the corporate mantle for health promotion (WHO, 1997b; Tsouros *et al*, 1998).

Occupation, socio-economic class and health

Work can have detrimental effects on the health of the employee and their family life (Repetti, 1987; Furnham, 1991; Caudron, 1997; Nishiyama and Johnson, 1997; Danna, 1999; Tones and Tilford, 2001). Occupation remains a potent indicator of social class and hence health because it shifts the emphasis from the subjective rating of prestige to 'their material or environmental properties', (Black *et al*, 1980. p.40). For most university staff their standard of living depends upon disposable income, together with accumulated wealth which itself is related to earnings (Townsend and Davidson, 1982; Townsend, 1990; Townsend *et al*, 1992; DoH, 1998, 1999; BMJ, 2002).

The recent realignment of social class into socio-economic groups were based on occupation first highlighted in the Black Report of 1980 (National Statistics, 2001). Since university employees, represent a broad band of occupational groups across a

range of staff positions they experience wide pay/salary differentials from £4.27 per hour to around £100,000 per year in 1999 (University of Eddington, 2000). (See Appendix 1 Socio-economic Groups and Social Class of University Staff based on National Statistics Economic Categories 2001).

Health promotion concerns itself with equity. The variations in health opportunities seen according to social class and occupational position within the workplace are important Chu *et al* (1997). How occupational position affects the staffs' perceptions of work in a university and work based health promotion will be of interest to this thesis.

Because of the limited development of HPUs, a lack of empirical evidence regarding the effectiveness of this settings based approach to health promotion currently exists. The relatively thin literature about HPUs that is available generally concentrates on the health promotion needs of students (Beattie, 1995a; Watkinson and Sefton, 2000; Dooris, 2001) requiring empirical examination from the staffs' perspective.

Objective (i). This thesis will examine the way in which staff in different occupational positions perceived the university to be a setting for health promotion.

This section has reviewed the origins of a health promoting university setting and the likely socio-economic occupational differences of staff. The following section will consider stress, which was expressed by staff as an important factor affecting the quality of their lives in the introduction to this thesis.

THE STRESS CONCEPT

WHAT IS STRESS?

The word stress is derived from the English word 'stresse' meaning hardship or distress, from the French 'estresse' meaning narrowness or strict and from the Vulgar Latin 'strictia', from Latin 'strictus' meaning tight or narrow (The Oxford Dictionary, 1986; The European Commission, 2000). The term stress has been used in both lay

and scientific literature to describe phenomena ranging from individual dispositions to societal conditions (Williams and House, 1991). A central notion in many of these definitions is that stress refers to hardship and feelings of being constrained by external pressures that challenge the adaptive resources. In recent years, stress seems to have become a buzzword used to describe a wide range of ‘discomforts’ perhaps resulting from our hectic pace of work and domestic life (Ursin and Murison, 1984; Cox, 1987; Grayham, 1997).

The Association of University Teachers (AUT) (Kinman, 1998) suggests that stress in the workplace is a growing problem, arguing that staff involved in high levels of personal interaction are more vulnerable compared to those in ‘product-oriented organisations’ (p.2). The perception that stress is increasing as factor of modern life, is taken further by Sheridan and Radmacher (1992) who argue that:

‘...we are in the midst of an epidemic of stress that is causing illness and even death, but few agree about how to define it’ [stress] (p. 148).

If we were in the midst of an epidemic caused by stress, having a clearer definition of stress than being more than hardship, pressure and discomfort would be useful. A number of writers acknowledge that to experience stress may be either negative ‘distress’ or positive ‘eustress’ experience (Selye, 1982; Kasl and Cooper, 1987; Bartlett, 1998; Bonn and Bonn, 2000) depending on the content and context of the stressor. Selye (1983) emphasised that stress can both damage and cure.

Exposure to stressful experiences can increase self-esteem and equip individuals to deal with similar challenging experiences. For some people, pursuit of stressful experiences is a means of stimulation and challenge (Williams and House, 1991) and this could be centred around work or out of work activities. Although some individuals may seek out eustress and find it psychologically satisfying, such stress may nevertheless adversely affect health (Mechanic, 1983).

For many years some employers have viewed stress as a weakness or even sin when employees’ coping capacities were exceeded (Ivancevich and Matteson, 1980). More recently, the results of a non-randomised, purposive survey with 630 health and safety representatives by Sparks and Cooper (1998) suggests that because stress is often

considered as a sign of weakness or failure, some employers and employees refused to accept that they or their work colleagues could suffer from it.

The role played by internal perceptions as well as external demands or events, may together give rise to the stress response. It is argued, that stress can be only be sensibly defined as a perceptual phenomenon arising from a comparison between the demands on an individual and their ability to cope (Cox and Ferguson, 1994). Furthermore, when stress persists, it adversely affects social functioning and can cause physical and psychological ill health (Cooper, Kirkaldy and Brown, 1994).

Perceived stress

Stress perception is an important issue for this study and one utilised in the 1996 health survey. A scale that provides a means of measuring the degree to which general situations in life are appraised as stressful, may assist in the better understanding of how stress is perceived by staff. In order to measure staffs' cognitive evaluation of stress, it was decided to use a recognised and validated tool on perceived stress the 'Perceived Stress Scale' (PSS) devised by Cohen, Kamarck and Mermelstein (1983) as part of the data collection instrument.

Using a perceived stress scale may overcome the difficulties associated with life event scales whereby desirable and undesirable events may be viewed as equally stressful (Holmes and Rahe, 1967; Dohrenwend *et al* 1988; Williams and House, 1991) especially as perceived stress scales measures the perceived degree in which environmental demands exceeds abilities to cope (Cohen and Williamson, 1988). Such a scale examining perceived stress has never reportedly been used with university staff.

Logically any measurement of the stressed state of university staff must be primarily based on self-reported measures. Because the PSS instrument is a global one and not tied to any specific events, it taps into staffs' perceptions of ongoing stress and anticipation of future stressors. This also includes vicarious stress through a friend, work colleague or family member (Spacapan, 1988). Measures relating to cognitive evaluation of stressors need to consider the staff's perceptions of the demands placed on them, their coping ability, if work fulfils their needs, the control and autonomy

they have over work and the organisational support in relation to that work. Eliciting the knowledge and perceptions of employees is therefore considered essential to the assessment and measuring process in this thesis. Further discussion on the assessment of perceived stress in relation to methodological issues will be presented in Chapter Three.

How do we cope with stress?

The concept of coping describes the psychological effort individuals make to adapt to their stressful experiences (Lazarus, 1966; 1976; Lazarus and Folkman 1984).

According to the European Agency Topic Centre for Good Practice (EATC/GP, 2000), an individual's ability to cope with the demands of the workplace will partly be dependent on how they experience stress and how much control and support the organisation determines. Benner and Wrubel (1989) suggest that we need to focus on personal meanings people attach to coping in order to 'make sense of what the person is doing', (p.186). This thesis will gain the staffs' ideas and views on how they feel that work related stress could be better coped with in the University of Eddington.

Much of the literature on workplace stress is aimed at helping the individual to cope by focusing on health promoting activities, for example, relaxation techniques, smoke stop, dietary habits and exercise programmes (Fontana, 1989; HEA, 1994; HSE, 1998, 2001a, 2001b). The notion of caring for and curing the individual has been criticized as a symptomatic response, which fails to get at the root of the problem. It has been labelled a 'band aid approach' to incongruent aspects existing between conditions of work and the worker (The European Commission, 2000).

Comparatively little attention has been devoted to more specific issues and situations that trouble employees at work and to pragmatic ways of approaching them through organisational development (Clulow, 1994; Cartwright et al, 1995; Rosenstock, 1997; Kompier and Cooper, 1999). According to Cox and Thompson (2000) the targeting of individuals with stress management interventions, which are often 'off the shelf designs', ignores the context of the workplace and dissociates diagnosis of the problems from the organisation.

There seems to be little empirical evidence in the available literature that specifically examines coping with stress in a university. To examine organisational issues and situations that may trouble university employees factors known to be problematic in other workplaces were used to ensure that the context of coping with stress in the workplace was explored. A diagnostic tool was required to do this and Pritchard and Pritchard (1994) work based tool for use in primary care settings was adapted. Conceptually, this tool (Pritchard and Pritchard *ibid*) examines work stress issues of staff roles, procedures, decision-making, conflict resolution and relationships. Importantly for a developing HPU, coping factors around work behaviour and lifestyle behaviour at work were included and adapted for this research.

Objective (ii). This thesis will explore suggestions made by the staff that enables them to manage stress at individual, departmental and university levels.

Workplace gender differences with health and stress perceptions

When we consider the complexities of health and stress at work, generally the world of women is different from that of men (Miles, 1991; Clark, Chandler and Barry, 2000; Siegfried, 2001). For example, women in paid employment are most often found in the lower tiers of occupational hierarchies and more likely to work part-time (Payne, 1991). Working part-time may enable some women to meet the demands caring for family and significant others outside of work (Graham, 1984, 1987; Stacey, 1988). Although women tend to live longer than men do, they suffer from more problems with their health (DoH, 1992, 1998; Bridgwood *et al*, 1996). An interest in health, combined with the dominant caring role of many women, may be a factor that enhances their health awareness, although this has not been empirically examined with university staff.

On the other hand, men generally are more likely to work full-time and have less involvement in the health of family members than women. Men seem to be more reluctant to seek health advice, or recognise when they have a health problem (Banks, 2001). Men studying at university have also been shown to be more sceptical, less responsible and resistant to health promotion, although it is unclear whether this

resistance is psychological, socio-cultural or determined by situational factors (Crossley, 2002).

Men and women might also perceive stress at work differently. The hypothesis of gender differential vulnerability contends that women would be more responsive than men to work stress (Pugliesi, 1999). A number of general studies support this hypothesis suggesting that overall women experience greater amounts of work-related stress than men do (Cohen and Williamson, 1988; Gadzella *et al*, 1991; Matthews, *et al* 1998). Although Doyle and Hind (1998) point out that women academics cope better than their male counterparts.

Spill-over stress

It is likely that there are interactions between acute and chronic stressors, which radiate across both work and non-work life. This notion of 'spill-over stress' from work to home-life and vice-versa has been advocated by Furnham (1991) and Quick *et al* (1992). The stress experienced by one spouse at work may 'crossover' leading to stress for the other spouse (Bolger *et al*, 1999). Contrary to previous thinking Bolger *et al* (*ibid*) indicate that husbands are more likely to bring their home stresses into the workplace than their wives are.

In one of the first studies of its kind in an established British University, Cushway and Tyler (1996) conducted an anonymous postal questionnaire to examine stress perceptions amongst all the staff gaining a 51% response (n = 2,400). Although staff position and gender were variables, Cushway and Tyler (*ibid*) make no mention of gender differentials in their findings concentrating on staff position and occupational differences.

Pugliesi (1999) rejects the hypothesis of gender differential vulnerability arguing that there are no gender differences in the effects of work stressors, but that patterns of occupational segregation increase women's exposure to detrimental job conditions. This goes someway to supporting Cartwright (1987) who suggested that women face prejudice especially when working in traditional male dominated occupations. Other researchers argue that different work factors account for gender related stress (Piltch *et al*, 1994; Spielberger and Reheiser, 1995). For example, women may suffer from

stress induced by time pressures or have less time for leisure activities than men (Holmshaw and Hillier, 2000). Still others report no gender difference when controlling for occupation and position (Greenglass, 1995). Similarly, conflicting findings were found in studies examining gender differences in coping strategies at work (Greenglass, 1995; Havlovic and Keenan, 1995; Gianakos, 2000).

Given some of the inconsistencies within the literature it is hard to draw a firm conclusion as to whether gender differential vulnerability is likely to exist in a new university. The dynamics of gender differences confirms the value of studying chronic and spill-over stress perceptions. Such stresses are inevitably manifest in day-to-day work and life events and may potentially lead to a circular or reciprocal relationship between work, non-work or work-family domains (Repetti, 1987; Bhagat *et al*, 1995).

University staff consists of a variety of occupational groups, how their work alters their perception and interest in health promotion is also poorly understood and largely based on anecdotal evidence. Further research using a gender-balanced university population seems to offer a promising way forward. This study may contribute some understanding of any health awareness and gender differences towards stress from the influence of university work.

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion and perceptions of work stress in a university.

This section has reviewed stress and gender differentials around health and stress. The next section considers the occupational factors that may influence stress perceptions in a university.

OCCUPATIONAL FACTORS THAT MAY AFFECT PERCEPTIONS OF STRESS

Organisational change

The perception of being unable to control what is happening, or feeling overloaded with demands or having to cope with unexpected change are key factors that emerge from the literature resulting in stress (Lazarus, 1966; Gutek, Repetti and Silver, 1988; Cohen and Williamson, 1988; Cox and Thompson, 2000).

It has long been recognised that too much change and unpredictable events may subject people to stress and disorientation (Burnes, 2000). Toffler (1970) referred to this stress as 'future shock' or the disease of change. Peterson and Lupton (1996), proposed that socio-cultural change and their subsequent imbalances may be stressful to staff and ultimately damage health and this seems to be a feature of contemporary higher education (McNay, 1995; Kinman, 1998).

Communication

One of the largest socio-cultural changes within the last decade has been in the way communication at work has been revolutionised (Mullins, 1996; Burnes, 2000). It is not known whether general communication across the university by staff is perceived as contributing to work stress. The University of Eddington like many higher education institutions (HEI's) has embraced modern information communication technology (ICT). High technology communication systems, whilst speeding up communication, simultaneously remove face-to-face or even voice-to-voice encounters and thus potentially isolate staff, even those working in close proximity (Rizzo, 1999). According to Hall (1999), the perfect communication system is yet to be devised and perhaps never will be. The phone, the pager, the fax, the photocopier and e-mail are useful servants but may also be conduits of change and demand (Huczynski and Buchanan, 1991; Drucker, 1995).

Fisher (1994) suggests the increased and sometimes-inappropriate use of ICT may blur the boundary between non-work and work resulting in stress. For some individuals, coping with technology at work, at home, at play means they rarely have time to relax because the mental separation between work and home may be difficult to achieve (Rosen and Weil, 1997).

When communication technology fails, it may directly affect employee stress, especially when there are problems regarding reliability, availability, suitability and maintenance (Huczynski and Buchanan, 1991). The reliance on new technology has given rise to the phenomenon of 'technostress' (Arnetz, 1996; Rizzo, 1999). In an attempt to combat the negative side of technology overload, some organisations for example, Camelot, Rowntree Nestlé and Hogg-Robinson implement 'e-mail free Fridays' to prevent their staff becoming 'digital islands' ensuring face-to-face encounters (BBC Radio 4, 2001).

Keller (1998) argues that:

'The traditional adversarial labour relations situation of worker and manager leads to challenges in communication, networking and decision making.'

(p.54)

The process of communicating change in a university may be crucial in the degree of cooperation of staff to enable organisational changes to be effective. However, Emmott (2001) warns that where there is little perceived ownership of change, even when there has been 'consultation' that negative psychological consequences may affect staff (p.59). In relation to psychological and emotional health, change within an organisation seems to be related to increased stress (Warr, 1992; Ferrie *et al*, 1998; Raymond, 2000). Employees who are at the lower levels within an organisation and who have little knowledge of change combined with little decision latitude are thought to be most at risk from stress (Platt, Pavis and Akram, 1999). Therefore, this research will explore whether different grades of university staff perceive change and the processes of communication as factors contributing to work stress.

Objective (iv). This thesis will examine whether staff perceived organisational change, communication and communication technology at work as factors contributing to work stress.

Job control and demand

Within an organisational setting, the degree of control in decision-making is often a measure of centralisation or decentralisation (Mintzberg, 1991; Robbins, 1993).

Mullins, (1996) suggests that delegation to subgroups or individuals provides a measure of autonomy or independence with increased perceived personal control in decisions over work. Shaw *et al* (1993), suggest that when staff understand the key decision making processes within and outside of their department or organisation, this may minimise any harmful effects of organisational change on health. Increased organisational clarity and participation of staff have been found to be particularly important towards facilitating well-being, especially during and following change or when demands on staff grow (Obholzer and Roberts, 1994; Drucker, 1995). Therefore, the changes within the University of Eddington may have led to unpredictability and work imbalances but whether these are perceived as stressful by the staff is unknown and will be explored in this research.

In a longitudinal study that investigated the extent to which well-being is mediated by change in work characteristics Parker, Chmiel and Wall (1997) found that the level of demand rather than 'the degree of change demand' was the key determinant to work stress (p.297). These authors report that the potential detrimental effects of increasing demands appeared to be off set by improvements in work characteristics. However, this study had a large gender bias with 95% male respondents in the sample of 139 workers so may not be generalisable into a university which has a gender balanced workforce.

The job demand-control model (Karasek, 1979; Karasek and Theorell, 1990) proposes that heavy demand combined with limited decision latitude [control] results in job strain or stress. Karasek's model has been used to examine a range of health or rather disease outcome measures relating to job control and demand in a variety of work and occupational settings. Fisher (1994) warns against making comparison between university staff and staff working within other organisations. However, the paucity of literature available on staff working in a new university warrants the use of evidence from other public sector organisations as it highlights areas that require investigation.

Hardy, Shapiro and Borrill (1997) in a cross-sectional survey of major occupational groups (n = 7,694) in UK hospital trusts reported that high work demand and low autonomy and control gave rise to fatigue. Highest levels of fatigue and the subjective sensation of tiredness were experienced by doctors' especially female

doctors. Nursing staff reported the highest levels of fatigability after physical exertion. Although the sample consisted of 75% female hospital staff, its representativeness is unclear although the study seems to add weight to the notion of increased demand and reduced control producing mental and physical fatigue, symptoms commonly associated with stress.

Schaubroeck and Merritt (1997) found that when people were confident in their abilities, having control mitigated the stress consequences of demanding jobs. Nevertheless, their study sample of 77 respondents poses limitations in size and gender bias, as 90% of respondents were female. In a larger national study of 244 occupations in Sweden men consistently reported higher levels of control than women, even within female stereotyped jobs (Hall, 1991).

The Whitehall II prospective cohort study (n = 7,372) (Marmot *et al*, 1991; Marmot, 1994) examined health inequalities among British civil servants. The cohort demographics cover a range of occupational groups and social classes of whom a third were female. In two large studies, examining this cohort, Bosma *et al* (1997) found that the cumulative effect of low job control and decision-making increased the risk of coronary heart disease (CHD). Whereas Stansfeld *et al* (1997) concluded that high demands were associated with psychiatric morbidity in both sexes. High work demand and low control may therefore influence both physical and mental health.

In summary it seems that organisational change combined with heavy work demand, limited decision latitude or control resulted in stress. These key factors seem to be integral components contributing to the stress experience with each factor centred on individual perceptions with the potential for discomfort and hardship.

Objective (v). This thesis will explore whether staff perceived the level of job demand and control to be factors contributing to or mediating against work stress.

The content of work

Because work generated stress categories mostly relate to the context of work, the content of work, or both (Cartwright and Cooper, 1997; Furnham, 1997; Cox, Griffiths and Rial-González, 2000) staff occupational position within the university may affect their perceptions and experience of stress. Much of the literature demonstrates consensus on the psychosocial hazards of work, which may be experienced as stressful, with the potential for harm to some groups of staff and not others (Selye, 1983; Kasl, 1987, 1992; Fisher and Reason, 1989; Warr, 1992).

Although high levels of stress have been observed in teachers generally, the higher education sector is a relatively new focus of concern (Kinman, 1998). Few large-scale studies of workplace stress amongst university staff have been carried out in the United Kingdom. In the USA the majority of studies about stress amongst university workers are focused on lecturing staff, for example, Goldenburg and Waddell (1990) examined stress amongst female baccalaureate nursing teachers. Blix *et al* (1994) explored the occupational stress of university teachers.

There appears to be a gap in the literature examining the stress perceptions of all grades of staff employed by a university. In the context of this study, occupation position therefore provides a means of measuring perceptions of stress across different socio-economic groups of staff discussed earlier.

Objective (vi). This thesis will attempt to quantify the level of work stress perceived by university staff in different occupational positions.

Workload

Work, workload and their influence on stress and detrimental effects on health have been assessed through an enormous amount of literature (Selye, 1982; Cooper, 1983; EATC/GP, 2000; Cox, 2000a, 2000b; Cox, and Thompson, 2000) including systematic large-scale reviews (Platt, Pavis and Akram, 1999). Work practices were examined by Cooper (1997), Sparks and Cooper (1998) indicating that the most highly rated causes of workplace stress were time pressures to meet deadlines and work overload. Similar findings were reported from the case controlled longitudinal

research on the ‘Whitehall II cohort’ of civil servants with over seven thousand respondents (Marmot et al, 1991; Marmot, 1994; Ferrie et al, 1995; Bosma et al, 1997; Stansfeld et al, 1997; Stansfeld and Marmot, 2001).

Academic staffs’ workload

In the past decade or so, academic staff numbers nationally have risen more slowly than student numbers. The overall student to academic staff ratio rose from 12.9:1 in 1989/90 to 16.8:1 in 1996/97 (Bett, 1999). Although these figures hide a wide diversity, the University of Eddington in 1996/97 had an overall student to academic staff ratio of 22: 1 a figure that remained consistent in 1999/2000 (University of Eddington, 1996; 1999). Therefore, staff in this new university proportionately have larger number of students to teach, administer and support than the national ‘average’ picture suggests. Fisher (1994) argued that student to staff ratio in excess of 17:1 can be very demanding in terms of teaching time and pastoral support.

There seems to be little empirical evidence of the amount of time university academic staff spend working. Anecdotal evidence in the Times Higher Educational Supplement (THES, 2000) claimed that many academic staff in higher education regularly worked half as much unpaid overtime as their basic paid hours (37.5 hours a week). If this were the case nationally, working around 56 hours a week would support the idea that some academic staff tend to live for their job and sacrifice their recreational and family time (Fisher, 1994).

In Fisher’s study (*ibid*) academic staff were randomly selected from two Scottish universities to keep weekly diaries of their work problems and ‘associated hours of worry’, (p.67). Acknowledging the gender imbalance of 78 male to seven female staff, Fisher (1994) found that overload and particularly role overload emerged as the main feature of stress according to her respondents.

A workload survey by the National Association of Teachers in Further and Higher Education (NATFHE, 1994) in (a new university comparable in size to Eddington) the University of Central Lancashire suggested that teaching staff were facing an overload in relation to their academic, administrative and ancillary duties. The increased pressure of work and research expectations amounted to reduced time for

teaching preparation and staff development. Although the survey questionnaire was distributed to over 500 union and non-union staff, it had a low response rate of only 22%, which was not justified in the report.

A later national survey (NATFHE) examined lecturers' workload and stress levels by using a stratified randomised sample of 1,000 union members (Earley, 1994). This survey achieved a more adequate response rate; double that in the University of Central Lancashire of 44% and revealed that 80% of respondents felt their stress levels at work to be unacceptable, with 45% feeling stressed 'most' or 'all of the time'. The report of the survey concluded that:

‘...Universities require a highly qualified and flexible workforce but a high quality service cannot be delivered to students if lecturers are overworked, ...’
(Earley, 1994, p. 20)

These findings have to be interpreted with a degree of caution. Firstly, non-union lecturers were excluded from the sample and may not necessarily share the same perspectives on workload as union members. Secondly, the survey treated further and higher education lecturers as a homogenous group without acknowledging the differences in working conditions, or other workload variables.

In a survey for the AUT, Kinman (1998) reported on the consequences of occupational stress among UK academic and related staff. Her findings point towards an ever-increasing workload and rising levels of stress jeopardising the quality of higher education and staff health (Kinman, *ibid*). More recently in a randomised survey, Kinman and Jones (2000) sampled 2000 full-time academic teaching and research staff of all ranks of which 782 (39%) responded. Although the response rate was considered adequate (Cohen and Manion, 1994) the sample population consisted of members of the AUT and therefore the findings do not necessarily reflect all workers or those who work part-time. The sample was drawn from old and new universities and other higher education institutions (HEI's), albeit 90% of respondents were from established 'red brick' Universities with a reported gender bias of two-thirds male. Almost three quarters found the pace of work too rushed, with 70% stating that their work was stressful. A strong relationship was found between hours worked and self reported levels of stress with the highest levels of stress reported by

those working over 40 hours per week ($p<0.001$). No gender differences were found in reported stress levels.

Support staffs' workload

In the context of this research, the term 'support staff' is inclusive of all non-academic staff consisting of administrators, clerical, manual and technical staff. Any increase in intellectual productivity in a university is likely to affect the work demands placed on academic as well as support staff (Fineman, 1980). Compared to academic staff very little empirical literature is available about university support staff and their workload.

Bett (1999) reported that the numbers of staff employed nationally seems not to have increased on a pro-rata basis with student numbers. Figures for the University of Eddington were highlighted earlier, showing that a 50% increase in students resulted in 16% extra staff, although this figure included academic staff.

Anecdotal information suggests that support staff in similarity with academics may be affected by over-stretch work activity to achieve corporate goals effectiveness and efficiency (Sanders, 2000). For example, much of the support of academic courses, be it technical, manual or administrative work is closely related to the number of students involved. Other work place research suggests that individual tasks which cannot be completed, or take too long to be completed, or are too quickly completed and have to be endlessly repeated often lead to monotony and stress (Cooper, 2000; EATCGP, 2000).

In an editorial, Weare (2001) suggests that external pressures such as the Teaching Quality Assessment (TQA) can create increased working hours resulting in workload stress for all staff in a department. Nevertheless, generally little is known about how support staff perceives their workload demand.

Much of the literature reviewed on workload above suggests that time pressures and excessive hours of work contribute to stress.

Working hours

A review by Spurgeon, Harrington and Cooper (1997), into the health and safety problems associated with long working hours suggests that the attitudes and motivation of staff concerned, their job requirements and the organisational and cultural climate are all likely to influence the level and nature of health and performance outcomes. These authors (Spurgeon, Harrington and Cooper, *ibid*) conclude with a warning that there is a risk to health and safety from long hours of work; a finding supported by the general literature (Rosa *et al*, 1989; Waterhouse *et al*, 1992; Boggild and Knutsson, 1999; Kobayashi *et al*, 1999; the European Agency for Safety and Health at Work, 2000).

Workload stress and mortality

Schnall *et al* (1994) in a review of 36 studies mainly from the USA and Europe argued that there was sufficient robust evidence in the literature to establish a causal relationship between cardiovascular disease and job stress. In Japan, the ultimate negative health outcome 'death from overwork' [*karoshi* or *karoushi*] has been recognised for more than three decades resulting from vascular disease particularly coronary and cerebral vascular (Nishiyama and Johnson, 1997). Tubbs (1993) advocates that *karoushi* be conceptualised as 'stress death' rather than death from overwork.

In what was perhaps the first analytical study to examine whether long working hours or changes in working hours influence death through work stress, Sokejima and Kagamimori (1998) in Japan observed a 'U' shaped relationship between monthly working hours and myocardial infarction (heart attack) in men. Long working hours, in excess of 60 hours a week and few working hours less than 35 hours a week increased the risk of sudden death in Japanese men. Although there seemed to be a trend for the risk of heart attack to increase with greater increases in mean working hours. Adjustments for established risk factors and psychosocial conditions did not appreciably change these findings. This study by Sokejima and Kagamimori (*ibid*) was probably also the first to also establish a link between working hours and non-fatal infarction.

Stress resulting from higher workload or job strain has been shown to be linked with morbidity and poorer health. Workload and working hours within a university seem to have a complex relationship. Whilst some staff have specific contracted working hours others have objective or goal centred contracts in which they are expected to achieve results. Establishing how much time staff report doing university work will assist the university to better understand staffs' workload and work-life balance (Caudron, 1997; Hogarth *et al*, 2001). This knowledge may also enable the university to gain a clearer overview on this important aspect of its strategic plan that states that:

‘We will monitor and manage the workload requirements on staff in line with the objectives of the department, faculty and University through the appraisal system and discussion with staff and their representative groups’.

(The University of Eddington Strategic Plan, 1999, paragraph 4.6).

How the demands of work are perceived within a new university by different grades of staff is not known. This research will explore how academic and support staff perceives their workloads.

Objective (vii). This thesis will examine whether university staff perceived their workload demand to be a factor causing them stress.

Role ambiguity at work

Working roles may be ‘formally, informally or self-established’ being important to the functioning of staff groups (Mullins, 1996, p. 205). Raymond (2000) suggests that when staff have their role within an organisation clearly defined and non-conflicting, enjoyment of work may be enhanced and stress minimised. Conversely, high uncertainty about staff roles may yield to role ambiguity and role conflict, both recognised as sources of stress (Ivancevich and Matteson, 1980; Burke, 1988).

Role ambiguity may exist when an individual’s understanding, co-workers expectations and the job description do not harmonise. Fagin *et al* (1996) report on the findings of three studies of psychological well-being and stress amongst mental health nurses (n = 648). This study used self-completed questionnaires and had a small gender bias of 63% female respondents. Fagin found that staff shortages and

changes in service resulted in staff taking on more roles, often to the detriment of their health.

In a rare longitudinal study to evaluate the positive effects of stressors on job performance, Abramis (1994) interviewed 281 adults of which 45% were female. The findings demonstrate that none of the stressors had a positive relationship with job performance and that role conflict and role ambiguity were detrimental to performance.

Objective (viii). This thesis will explore whether role ambiguity at work is perceived by staff to contribute to work stress.

Staff relationships and psychosocial support

For most staff, and particularly those working in offices, the psychosocial characteristics of work and its social organisation are thought to be either the most important construct to health or to become an occupational health hazard (Marmot *et al*, 1991; Wilkinson, 1996). High levels of social support at work have been found to be protective of mental health in both sexes (Fagin *et al*, 1996; Marmot and Wilkinson, 2000). In a meta-analysis study of 68 papers, Viswesvaran *et al* (1999) concluded that social support reduced job stress and moderated the stressor strain relationship.

Peterson and Wilson (1996) used a cross-sectional stratified randomised study to examine perceptions of work in relation to health in a large North American University. Their self-administered questionnaires were sent to 432 employees gaining a response rate of 53.8% (n = 218). This study found that satisfaction with co-workers was their strongest predictive factor for health perception. Moreover, as work perceptions became more positive so too did health perceptions of the university staff. A positive correlation was found between perceptions of work and health when managers and subordinate workers experienced social cohesion. However, the researchers do not state whether the 62% of female respondents reflect the staff gender percentage of the university population and thus, potentially, limiting their findings generalisability.

Lim (1996, 1997) in two papers examining the same cross-sectional data, explored whether work based social support from supervisors and colleagues moderated the relationship between job insecurity and job dissatisfaction. Both variables are potential sources of work stress (Cooper, 1978). Lim (1997) found that high levels of perceived peer support offset some of the negative effects of work insecurity. Similarly, job dissatisfaction was stronger for those employees with low levels of supervisor and work colleague support. Lim's (*ibid*) respondents were randomly selected (n = 306) however; they were all business graduates (MBA alumni) and represent an educated elite cohort and not that of employees generally in a university.

Working relationships particularly between subordinate and boss are implicated in health and well-being outcomes (Cartwright and Cooper, 1997, Hadikin and O'Driscol, 2000). Much of the recent literature links poor management support to harassment and bullying suggesting that this may place severe stress on staff (Baty, 2000).

Adult bullying in the workplace is the subject of considerable current interest (Hannabuss, 1998, Lewis 2001, Pearce, 2001; CIPD, 2001). The definition of bullying remains contentious, this being evident in the literature terminology. Laymann (1990) and Smith (1994) have referred to bullying as a severe form of harassment towards people in organisations, whereas Olweus (1996) argues that bullying is a repetitive act based on an asymmetrical power relationship. Subtle bullying in an organization may operate covertly and therefore be difficult to detect (Crawford, 1987). Therefore, rather than use the contentious term of 'bullying' a more neutral stance will be adopted in this research, that of 'lack of management support' from which staff may allude to bullying as well as other issues.

Psychosocial support for health has recently captured the imagination of the UK Universities Safety Association (USA) and Universities and Colleges Employers Association (UCEA). These agencies produced a joint guidance document on how to 'deal with stress in higher education' (USA and UCEA, 1999). The focus of this document suggests that higher education shares many similarities with other large public sector employers and draws on statutory legislation imposing a duty of care on

employers (Health and Safety at Work Act, 1974; The Management of Health and Safety at Work Regulations, 1999). One of the few writers to comment on psychosocial support and mental health of university staff suggests that whilst many employers may strive to protect the physical health of their employees, mental health is seen as purely an individual's responsibility (Dooris, 1997). How staff perceived their psychosocial health to be affected by work seems to be poorly understood in the context of a new university.

Objective (ix). This thesis will explore whether staff sees positive staff relationships, along with support from peers and managers, as contributing to or mediating against their perceived work stress.

Environmental factors at work

The physical environment can affect mood and overall mental state of employees (Cartwright and Cooper, 1997). High job strain with low social support at work has been associated with environmental conditions especially 'sick building syndrome.' Sick building syndrome became a twentieth century phenomena linking the working environment to an array of non-specific symptoms (Bourbeau, Brisson and Allaire, 1996).

Hedge, Erickson and Rubin (1996) in a large study in the USA targeted staff in 27 office buildings known to have problems with indoor air quality. In their sample ($n = 4,479$) respondents reported a host of symptoms including headache, various muscular skeletal aches especially backache, mucus membrane irritation chiefly eye and nose, poor concentration and memory problems, fatigue and dry skin. Hedge, Erickson and Rubin (*ibid*) suggest that job stress ratings were positively associated with increased reported symptomology and negatively associated with job satisfaction.

In a large gender balanced environmental Swedish study involving office workers ($n = 4943$), Sternberg and Wall (1995) found that excessive symptomology was more prevalent among female staff that dealt with high paperwork and psychosocial workloads. Sternberg and Wall (*ibid*) used a combination of self-completion questionnaires followed up with clinical examination. This appears to be a very

reliable study suggesting that the excess symptom prevalence among female workers is real and not a reporting artefact.

It seems that the working environment can mediate for and against stress, which may manifest in a host of physical and mental symptoms. Unfortunately, due to the ad hoc arrangements for monitoring and recording staff sickness in the University of Eddington, particularly self-certified sickness absence, this research will not be able to make comparisons with the wider data. Although a synopsis of physician certificated sickness levels are reported in Appendix 2, revealing 12.6 days sickness for manual staff reducing to just 2.2 days for academic staff a year. It is suggested, that these figures under represent the true picture.

Objective (x) – This thesis will explore whether the work environment is perceived as a contributory factor to stress by university staff.

This section has reviewed the literature related to occupational factors which may affect the stress perceptions of university staff. Organisational, psychosocial and the environmental relationships at work were identified as potential sources or mediators of stress. The following section reviews the literature related to health and lifestyle coping factors associated with stress.

LIFESTYLE COPING FACTORS AND STRESS

PHYSICAL ACTIVITY

Physical activity is a term for a complex set of activities including exercise, sport, and movement that result in increased muscular strength, endurance and flexibility (Jacobson, Smith and Whitehead, 1991). Since the early 1980's, studies using both self-report and objective measures have demonstrated that physically active individuals suffer less from stress and stress-associated illness than non-active individuals (Brown, 1991). Regular physical activity, ideally for a minimum of 30 minutes five times a week (HEA, 1996) is important in providing physical and mental health benefits for occupational health and well-being (Steinhardt and Dishman, 1989; Brigwood *et al* 1996). Mental health and emotional resilience may be improved by

physical activity (Brown, 1991; DoH, 1999; Sherr, 1998; Watkinson, 2001). Gosselin and Taylor (1999) suggest that physical activity may be utilised as an adjunct to mental health promotion, stress management and anxiety reduction. Additionally, outdoor exercise combined with relaxation and a sense of communing with nature may help to reduce stress still further than indoor activity alone (Rizzo, 1999; Trchalik, 1999).

Over the past decade, inactivity has been shown to be the major factor predisposing to obesity (Davis, Giles, and Rona, 2000). The effects of inactivity are accepted as being roughly equivalent in terms of health risk to smoking, hypertension and hypercholesterolaemia (DoH, 2000; Carney, Mutrie and McNeish, 2000). Evidence from a prospective North American study demonstrates a dose response gradient between levels of fitness and the risk of premature death (Blair *et al*, 1992). Therefore, physical activity is an important lifestyle factor to maintain both mental and physical health.

In a randomised controlled trial examining physical activity, Hillsdon *et al* (1995) found that successful interventions incorporate physical activity into peoples' daily lives. Evidence suggests that people are more likely to exercise when facilities are physically within easy reach and time-convenient, not too expensive, of moderate intensity activity and informal (Hillsdon *et al*, *ibid*; US Surgeon General, 1996). It would seem on the face of it that a city university setting should fulfil a number of these suggested requirements to enable staff to benefit from physical activity.

Loughlan and Mutrie (1997) argue that in terms of adoption of exercise, simply giving out information in a supportive environment is an effective and low-cost intervention. Three years later one of these researchers along with others report that within six months of graduation 22% of physically active university students (a group known to be more active than the general population) had relapsed (Carney, Mutrie and McNeish, (2000). It would appear that enabling physical activity to become sustainable, habitualising it as part of peoples every day lives would help to overcome relapses (Wu and Porell, 2000; Watkinson, 2001).

In a nationwide survey of adults in England, Bridgwood *et al* (1996) report that age was inversely related to the amount of physical activity undertaken. In nearly every age group, a higher proportion of men were more physically active than women (Bridgwood *et al ibid*). Stansfield *et al* (1997) and Ferrie *et al* (1998) report on the Whitehall II cohort that women anticipating change in their work showed a significant reduction in physical activity, a finding not seen in males.

Several studies also suggest that workplace fitness provision fails to meet the needs of women due to the unequal demands of time between men and women (Springett and Dugdill, 1995; McGillivray, 2002). The increasing stress and demands on women seems to be linked to their multiple roles, such as caring for family members. Griffiths, (1996) in a review of the benefits of employee exercise programmes suggests this requires improved employment conditions and family support to facilitate time for physical activity, stress reduction and health promotion.

The literature reviewed suggests that physical activity seems to be influenced by the type of work, and out of work activity, by gender and age. Understanding university staffs' perceptions about the importance of physical activity and their behaviour towards physical activity undertaken may provide an insight into their level of fitness and whether physical activity mediates against stress. From this understanding, it might be possible to examine ways and means of supporting physical activity across the campus.

Objective (xi). This thesis will examine staff beliefs and their perceived behaviour towards physical activity. It will explore any work barriers that prevent staff from achieving their desired level of physical activity.

HEALTHY EATING

The link between CHD, stress and poor diet is well established (Department of Health, 2000a). According to Detherage, Johnson and Mandle (1994) a balanced diet can help as part of an overall strategy to reduce stress and improve health. A healthy diet should consist of a balance of foodstuffs being low in fat, salt and sugar and high in fibre, fruit and vegetables (Jacobson, Smith and Whitehead, 1991; Spark 1994).

The 'Mediterranean diet' (de Lorgeril *et al*, 1994), which is particularly rich in fresh fruit and vegetables, has influenced the UK Government's national nutritional policy, particularly because of its proven value in reducing the incidents of CHD (Scally, 1997).

Levels of knowledge about what constitutes a healthy diet are considered to be high within the general adult population of England, although according to Bridgwood *et al* (1996) around one third experience confusion over healthy and unhealthy options. Sprotson (1999) in a randomised sample of adults (n = 7,034) found that women eat more healthily than men and that older people have a healthier diet than younger people. Women and older people were found to eat more fruit, vegetables and salad. Similar finding were also reported by Davis, Giles, and Rona (2000) in their investigation into obesity.

In a dietary and nutritional survey of British adults Gregory, *et al* (1990) reported that consumption and expenditure on fats had a negative relationship with income whilst fruit intake correlated with increased income. Similar findings were reported by Nelson (1999) showing nutritional and health inequalities linked to socio-economic status.

Under stress, people may eat badly as well as performing any work less effectively. Grunberg and Straub (1992) established that acute stress markedly and significantly decreased food consumption in men, but resulted in some increased food consumption in women. Women were found to eat almost twice as much sweet food and more bland food under stress than they did in the control condition, but these effects were not statistically significant (Grunberg and Straub, *ibid*). These results indicate that the relationship between stress and eating depends on the subject's sex and may relate to the choice of food available. Other researchers have found that special diets may help stressed people to perform cognitively better when exposed to acute controlled laboratory stress (Markus *et al*, 1999).

The literature suggests that stress seems to affect the dietary choices people may make perhaps overriding their knowledge of a healthy diet. Gender, age and the availability of healthy food also contribute to dietary patterns. It therefore seems appropriate for

the workplace to provide healthy options to enable staff to eat a healthy diet at work. The importance of healthy eating to university staff and their perception of the availability of healthy food in the university catering outlets has never been empirically examined.

Objective (xii). This thesis will examine staff beliefs and their perceived behaviour towards healthy eating. It will explore any work barriers that prevent staff from eating healthily.

SMOKING AS A STRESS MEDIATOR

Smoking has been recognised as a multi-faceted behaviour with a sharp socio-economic gradient, gender and stress facets, as well as being a health hazard (Hope, Kelleher and O'Connor, 1998; DoH, 1998, 1999, 2000). In England reported smoking prevalence shows 16% of men and 12% of women in professional groups increasing to 40% of men and 34% of women in unskilled manual groups smoking (Prescott-Clarke *et al*, 1997). Sprotson (1999) revealed that adults who smoke 'occasionally' to 'daily' varies respectfully from 5% to 17% in combined social classes I and II, to 7% and 33% for combined social classes IV and V.

Demands of work and interpersonal relationships at work were shown earlier to be major potential stressors. Heavy work burdens have been associated, in the past, with increased use of tobacco (French and Caplan, 1972) as has increased stress (Sheahan and Latimer, 1995). Amongst civil servant in the Whitehall II cohort, Stansfield *et al* (1997) and Ferrie *et al* (1998) found that women anticipating change showed a significant increase in smoking, a finding not seen in males. It is not clear from these studies whether more women commenced smoking because of the potential stress of job changes.

The impact of the intervention of a smoking policy has been shown to reduce exposure to passive smoking but have little effect on the number of staff who continues to smoke out of work (Hope, Kelleher and O'Connor, 1998). In a smaller study, of nurses who smoked (n = 33) Strobl and Latter (1998) revealed that nine

months following a smoking ban, only six respondents had tried to give up and no reduction in smoking outside of work recorded.

Most of the respondent nurses in the studies by Hope, Kelleher and O'Connor (1998) and Strobl and Latter (1998), had considerable agreement with their health educator and role model function concerning smoking. Their workplace supported a ban on smoking but smoking may have helped these staff unwind from the demands of their jobs or perhaps the addictive nature of smoking made quitting very difficult for them (Cummings, 1997).

Heavy smoking has been found to support stress coping, although Vollrath (1998) found the effects of light or medium smoking to be ambiguous in the stress transition to university with first year students. Students who regularly used the Students' Union on one campus were surveyed and their expired air carbon monoxide levels measured to screen smokers and non-smokers (n = 300). The number of smokers increased from 34% during the daytime to 44% at night (Watkinson and Sefton, 2000). This seems to suggest that respondents in this survey used smoking as a means of relaxing at night.

The implications for this research is that the literature highlights the need for further study using different populations before conclusions can be drawn as to whether smoking is used as a coping activity. An assessment of the number of university staff that smoke may provide an indicator to the position and gender of staff that use smoking as a means of coping with the demands of work. The literature reviewed suggests that the amount of smoking appears to be ambiguous in relation to stress.

Knowledge of the number and type of staff who smoke may also be useful for targeting smoking cessation support (HEA, 1997). Smokers are often disillusioned about smoking and about stopping. A recent representative national sample of smokers showed that 80% percent of smokers under 40 years who believed they could give up, only 64% percent had quit by the time they were 60 years old (Jarvis, McIntyre and Bates, 2002).

Objective (xiii). This thesis will seek to quantify the proportion of staff that smoke and explore amongst those staff, what support they would like should they wish to quit smoking.

ALCOHOL AS A STRESS MEDIATOR

The majority of people in the UK drink alcohol on a regular basis (Hutcheson, Henderson and Davies, 1995); it therefore follows that a large proportion of university employees are likely to be alcohol consumers. Men are more likely to report higher rates of alcohol usage (Arber, 1999). For most people alcohol is used to enhance social interaction by reducing inhibitions, for some workers alcohol may also be used to palliate or dampen down the effects of high levels of work stress (Coffey and Coleman, 2001; DoH, 2001).

Increasing people's awareness of their own drinking patterns and knowledge of the various alcohol strengths of popular drinks involves an understanding about units of alcohol. Bridgwood, *et al* (1996) found that the majority of adults in England are aware of measuring alcohol consumption in terms of units. In this national study, it was also noted that on average men drank 18.2 units a week compared to seven units of alcohol for women, although 30% of men and 15% of women consumed more than 'sensible levels' of 21 and 14 units respectfully. Awareness of unit consumption was highest among those aged under 45 years, although this knowledge seems to have little effect on behaviour (May, 1991).

Coffey and Coleman (2001) explored the caseload stress of mental health nurses working in 26 medium secure forensic units. Postal questionnaires were used achieving a high response rate 77% (n = 80). Statistically significant associations were found between caseload size and stress while support from managers and colleagues helped to ameliorate the experience. Alcohol was used by some staff to palliate the stress effect but not to a statistically significant level.

In the Netherlands Vasse, Nijhuis and Kok (1998) used a cross-sectional study of a worksite health project to examine blue and white-collar employees stress, alcohol and sickness levels (n = 471). In the presence of stress, abstinence increased the rate

of sickness compared with moderate drinking although as these authors acknowledge this could have been due to medical problems of abstainers or lack of coping skills with stress. No significant relationships between excessive drinking and sickness absence were found, although this may have been due to the sample size (Vasse, Nijhuis and Kok, *ibid*).

Frone (1999) suggests that employee alcohol use may be a direct or indirect response to physical and psychosocial qualities of the working environment. Arguing that employees who drink heavily or who abuse or are dependent on alcohol can undermine a workforce's overall health and productivity (Frone, *ibid*).

Generally, the relationship between work stress and alcohol consumption in the literature reviewed seems to be inconclusive (Hutcheson, Henderson and Davies, 1995; Hagihara, *et al*, 2000). One reason for this is that stress may be more predictive of alcohol related problems than it is of alcohol use (Frone, 1999; McCreary and Sadava, 2000).

Unlike smoking, alcohol has some positive health benefits and not merely palliative by helping people to relax socially (Sayette, 1999). Moderate drinkers tend to outlive those who drink the least or the most. In a study by Doll *et al* (1994) after taking into account levels of smoking, male doctors who drank between 8 and 14 units of alcohol a week were found to be at lowest risk of all causes of mortality. Hutcheson, Henderson and Davies (1995) have represented the link between alcohol consumption and health in a 'U' shaped curve but on closer examination the curve is more 'J' shaped, demonstrating that excessive alcohol consumption is more damaging to health than abstinence (p.17).

It would appear from the literature reviewed that alcohol could act to palliate the effects of stress in normal and abnormal coping. Alcohol may also be a source of stress especially if abused creating problems in the working lives of abusers (Bross, Pace and Cronin, 1992; Martin, Kraft and Roman, 1994). By exploring staff self-rated use of alcohol, this study may indicate the number of staff, gender and occupational position where alcohol is used to benefit health and also excessively as a coping mechanism.

Objective (xiv). This thesis will examine how many units of alcohol staff perceived they consumed during an average week and whether alcohol is used to cope with stress.

This section has reviewed the literature related to lifestyle factors that may assist staff to cope with stress. Physical activity and healthy eating were shown to have positive health benefits, as was alcohol in moderation. The well known detrimental health effects of smoking and worksite bans seem to do little to deter those addicted, perhaps preferring to value the relaxing aspects of smoking. The following section reviews the limited literature around health surveys in universities.

UNIVERSITY HEALTH AND STRESS SURVEYS

SURVEYS IN DEVELOPING HPUs

It is appropriate at this stage to look at some of the methods employed in previous studies examining HPUs. This research involves staff in an assessment of their work, their perceptions of stress and the services of a university to promote health in the setting of a new university.

The few writers who have discussed the implementation of their individual HPUs have used qualitative and quantitative methods either as part of a needs assessment or to evaluate progress (Tsouros *et al*, 1998). Usually these have been reported as internal evaluations or annual progress reports with the exception of Tsouros *et al* (*ibid*) who amalgamate the progress made in the UK. Few studies offer descriptions of settings based approaches to health promotion and individual institutional programmes. Dowding (1995) utilised focus group research to assess staff health needs. Dooris (1998) rather than undertake a health needs assessment tapped into his university's 'staff attitude survey' with some additional questions on health (p.103). Beattie (1998) applied what he calls 'purposeful opportunism', (p.50) to work

simultaneously with different methods on a range of mainly student health issues with students undertaking and developing health promotion across a university college.

Much of this work detailed above provides an insight into the development of HPUs in the UK. It fails to offer any detailed methodology especially around sampling techniques which seem to be mainly convenience or opportunistic. Even Dooris (1998) piggybacked onto another survey to gain his data. Importantly little empirical evidence is offered to support the rhetoric of HPUs.

Surveys in other universities

Empirical work on university staff health is reported in non-HPUs where healthy projects have been utilised rather than a whole organisational healthy settings approach. The work of Fisher (1994), discussed earlier, with academic staff in two Scottish universities assessed their stress levels at work. However, Fisher (*ibid*) utilised the 'Middlesex Hospital Questionnaire' originally developed to assess psychoneurotic symptoms and distress in patients with a weekly diary quantifying the number of 'worry hours' (p.67) perceived by staff. This approach by Fisher focused on academic staff only and was felt to be pathology centred and therefore of limited value for this study.

The stress survey by Cushway and Tyler (1996) in the University of Birmingham, discussed earlier, included all occupational positions. Their anonymous survey used an instrument based on the General Health Questionnaire (GHQ) devised by Goldberg (1972). Cushway and Tyler (*ibid*) adapted the GHQ with additional open-ended questions to gain a qualitative perspective on stressors and coping mechanisms.

In 1993, Oxford Brookes (a new university) Occupational Health Department performed a randomised survey of 10% of staff using an adaptation of the GHQ. Their findings identified that stress was an important issue. Two years later a second survey was conducted but with a 'different data collecting instrument', one which was 'more specific for Brookes' (UCEA and USA, 1999, p.32). The second sample was not randomised and utilised only one academic and one central administrative department. Due to the individuality of this survey instrument, including adaptation

of the GHQ, no rigorous comparisons could be made either with the previous work in Brookes or with other surveys using the GHQ.

Both of the above studies in Birmingham and Oxford cite the GHQ as their main data collection instrument. More recently, the Universities Safety Association and Universities and Colleges Employers Association (1999) recommend the use of the GHQ to all higher education institutions even though its specificity is around chronic psychiatric conditions (Goodchild and Duncan-Jones, 1985; Ibbotson *et al*, 1994; McDowell and Newell, 1996; Bowling, 1997). This illness and disease focus ultimately limits the approaches to behaviour change (Whitehead, 2000) within the agenda of a HPU. Therefore, the GHQ was rejected as a data collection instrument for this study, which examines changes in workplace health issues and perceived stress levels in university staff. It seems that previous GHQ surveys failed to provide sufficiently detailed basis for sound intervention programmes for universities hence their adaptation in the Birmingham and Oxford Brookes surveys previously highlighted.

Using a perceived stress scale devised by Cohen, Kamarck and Mermelstein (1983) and revised by Cohen and Williamson (1988) may overcome the difficulties associated with life event scales, which the GHQ and other scales discussed earlier focus (Holmes and Rahe, 1967; Dohrenwend *et al* 1988; Williams and House, 1991). By integrating the PSS into work stress issues adapted from the work of Pritchard and Pritchard (1994) staff perceptions around work roles, procedures, decision-making, conflict resolution and relationships will be gained.

SYNOPSIS OF CHAPTER TWO

This chapter has reviewed the literature supporting the rationale for exploring health and stress perceptions of staff in a developing HPU. The literature reviewed illustrates that work stress has many facets. Sceptics may view work stress as a form of personal weakness on the part of those affected. The bulk of the literature does not hold this view signifying that work stress is a negative factor to good health.

The characteristics of potential work related stressors have been identified and may vary with work content and context. Factors attributed to stress at work in a university or in peoples' private lives cannot be viewed in isolation. Three key factors emerged from the literature regarding the degree to which individuals feel that the events in their lives are unpredictable, uncontrollable and overloaded as the basis of stress (Lazarus, 1966; Gutek, Repetti and Silver, 1988; Cohen and Williamson, 1988; Cox and Thompson, 2000).

The lifestyle issues that may help staff to cope with stress were examined particularly those used in the 1996 health survey to enable some comparisons. Research into settings based approaches to health promotion seems not to have focused in a serious way on working conditions as an indirect effector of lifestyle behaviour decisions. The following chapter will consider the literature that underpinned the methodological considerations in the development of a research strategy to achieve the aims and objectives of this study.

CHAPTER THREE

METHODOLOGY

The aim of this chapter

The aim of this chapter is to discuss the methods used to facilitate the collection, production and analysis of data to achieve the research aims of this thesis. As a reminder these are:

To explore within a developing health promoting university the current factors that staff perceive as contributing towards or mediating against work stress. A subsidiary aim is to make some tentative comparisons with a health survey conducted in 1996.

The second aim is to:

Put forward recommendations and priorities for action to improve the health of staff working in the University.

THE NATURE AND CONTEXT OF THIS ENQUIRY

Gaining access to the field

Permission was granted by the directorate of the university to carry out a study on staff health perceptions in the institution and to examine the impact, if any, of work factors that may contribute to work stress. A Pro Vice-Chancellor who was also the line manager of the author, agreed to provide an operational link with the directorate. This link enabled the secondary aim of this thesis to be considered at executive level.

Chronological phases of the study

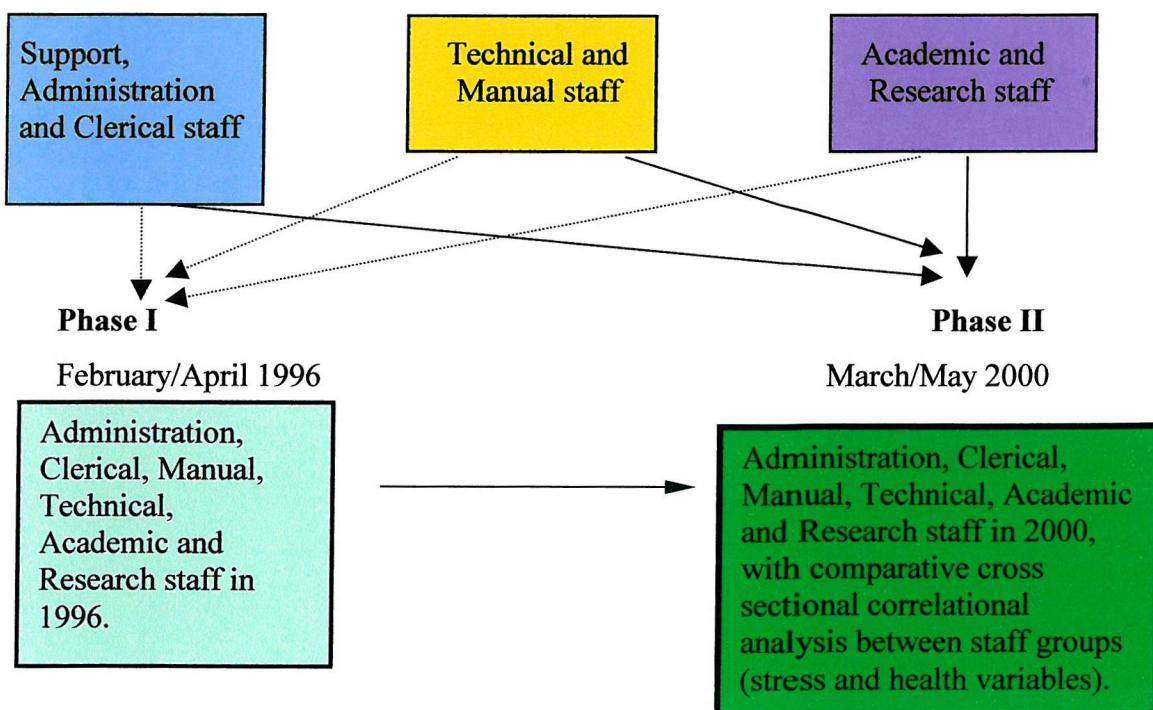
This research consists of two phases exploring staff perceptions of work stress and health:

- Phase 1. Collection of data - the 1996 survey.
- Phase II. Refining the 1996 survey instrument, piloting the revised version and replication of this survey in 2000 with comparative cross-sectional and correlational analysis.

It is important to note that this research is not longitudinal research in its purist form of using a 'before and after' survey. The total population of staff underwent changes as staff left and others joined. Therefore the respondents in the two surveys were not homogenous groups, although in the 2000 randomised sample some respondents may have been included in the 1996 survey, but many more were likely to have worked in the university throughout this four-year period.

Figure 3.1 below provides a diagrammatic overview of the study design.

Figure 3.1 Overview of the study design using a single University Cross-sectional Survey Data Collection



METHODOLOGICAL FRAMEWORK

THE NORMOTHETIC APPROACH IN THIS STUDY

A quantitative paradigm

A normothetic approach to research is one designed to discover the general laws by collecting and analysing empirical evidence. Cohen and Manion (1994, p.13) cite Mouly's (1978) five steps to empirical or verifiable evidence as follows:

1. experience - that reliable knowledge originates in experience
2. classification - whereby otherwise incomprehensible data can be systematised and categorised
3. quantification - where measurement enables data to be quantified
4. discovery of relationships - the identification and classification of data enables functional relationships to be identified
5. approximation to the truth - that science proceeds by gradual approximation to the truth.

This research uses a straightforward quantitative paradigm or methodological framework. Scott and Usher (1996) suggests the research paradigm may be defined as the relationship between data and what they refer to. Method frequently refers to the data collection instrument, for example, in this study the use of postal questionnaires (Bryman and Cramer, 1990; Hammersley, 1992). Therefore, this study relies on normothetic or etic-based methods of enquiry to seek, identify, analyse and quantify relationships (Cohen and Manion, 1994). These relationships are based on probabilities derived from the study of large numbers of randomly selected staff through a process of deduction (Bryman and Cramer, 1990; Parahoo, 1997).

Quantitative research relies heavily on collecting data that are primarily numerical and comparable to allow analysis, and to test statistical significance within the assumption of stable reality (Reichardt and Cook, 1979). The normothetic approach has been defined as outcome oriented, this being particularly suitable when there are predetermined sets of variables (Reichardt and Cook, *ibid*).

In order to meet the aims of this thesis, namely exploring factors that may contribute to work stress, the relationships between variables will be identified and analysed.

The survey method is used, which includes some open-ended questions. Surveys are particularly useful for gathering data at a specific point in time with the intention of explaining the nature of existing conditions, or determining and comparing relationships that exist between different points of time (Cohen and Manion, 1994; Sapsford, 1999). There is a requirement to compare the responses of year 2000 staff in varying positions, and also tentatively with those from the 1996 survey as this corresponded to the implementation of the HPU initiative and where it is four years on.

To analyse how staff perceived their social reality, how they constructed and interpreted work stress and the university as a healthy employer, required open ended or qualitative questions within the survey. This utilisation of a predominantly normative approach with the partly ideographic or interpretative technique of open ended questions was necessary to enable a greater understanding of the staffs' experience of work and the HPU initiative, rather than merely sampling a portion of the investigated reality (Blaikie, 1991; DeVries *et al* 1992; Denzin and Lincoln, 1994; Milburn *et al*, 1994; 1995).

Heinrich and Jex (1998) give a general warning that because much of the literature on stress relies on self-reported data, the validity may be biased with regard to the issue of negative affectivity (NA). In research, NA may be defined as respondent fixation with the negative aspects of everything, resulting in the potential to report distress in all situations (Watson and Clark, 1984; Moylan, 1994). NA could influence respondent interaction with the questionnaire. Dollard and Winefield (1998) suggest that NA is linked to certain work characteristics, particularly high demand, low control and low support concluding that studies that attempt to control for negative affectivity may underestimate the impact of work and the environment on work stress.

Bailey and Bhagat (1997) suggest that by applying the principles of data triangulation the potential problem of 'negative affectivity' could be identified. Therefore in this study using the work stress, perceived stress and qualitative components within the

questionnaire NA may be identifiable by respondent fixation with negativity (Cohen & Manion, 1994).

The sole use of ideographic or qualitative approaches, which focus on individual behaviour, were rejected for this research as they commonly fail to identify the scope and magnitude of the identified issues (Cohen and Manion, 1994; Hammersley, 1995). A larger sample of staff than could be economically gained would be required to counter this weakness. Besides, the provision for qualitative comments through open-ended questions within the questionnaire provides a means for a large sample of staff to give their opinions anonymously.

May and Foxcroft (1995) warn of the potential for bias in self-reported health behaviours. Memory distortion by respondents is also recognised as a potential problem (Hutcheson, Henderson and Davies, 1995). Anonymity in the questionnaire may help to reduce bias and whilst quantitative research is not immune to this potential bias, qualitative research grapples with the power differential between interviewer and respondent which can profoundly skew responses especially when respondents wish to please the researcher (May and Foxcroft, 1995).

Theoretical considerations for using questionnaires

Using anonymous and self-completed questionnaires is considered to be more reliable than interviewing staff because it has the potential for greater honesty (Cohen and Manion, 1994). Respondents can complete the survey when they have time and perspective to give their best answers, rather than responding on the spot to an interviewer's questions (Gilmore and Campbell, 1996). A particular pragmatic consideration for a part-time researcher was to mail out questionnaires to collect data from staff, being more economical in terms of time and money than face-to-face interviews.

The validity of a postal questionnaire needs to be considered. According to Belson (1986), two issues arise. Firstly, whether respondents complete their questionnaire accurately and secondly, whether those staff who do not return their questionnaire would have given the same distribution of answers as those who did. Piloting the questionnaire helped to resolve this first issue. The second issue is more problematic with the main

disadvantage being a potentially low response rate. In an effort to increase the number of respondents from 37% in the 1996 survey, it was decided to sample a slightly larger number of staff and therefore increase the sample from 10% to 12% in 2000.

Non-response error and gender balance

Non-response error is a particular risk for mail surveys (Oppenheim, 1992; Mangione, 1998). The issue is not the number or proportion of non-respondents, but the possibility of bias. If staff whom do not respond, hold different views or behave differently from the majority of staff then under-representation of these views will occur. Similarly, if non-responders are not that different from responders in their views and behaviour then under-representation may reduce the readers' confidence in the results.

Some of the studies reported earlier in the rationale were gender biased, (Parker, Chmiel and Wall, 1997; Wahlstedt and Edling, 1997; Schaubroeck and Merritt, 1997). Differences between the sexes appear to be sufficiently obvious for most social and health data to be presented and analysed separately for each sex (Miles, 1991). This assumes that there will be distinctive profiles for each sex on any particular variable; however, Miles (1991) goes on to warn that the data should be subject to 'systematic comparison' (p.9) and not treated separately to account for potential differences that may be both ubiquitous and hidden. Gender is a key variable formulated within the research objectives in the previous chapter being subject to systematic comparisons.

As Kramer and Rosenthal (1999) point out, consideration of 'effect sizes' is important particularly 'when the study has only a small number of subjects but should also be valued regardless of the number of subjects when analysing the results', (p.76). Therefore, having a means to check and compare simple socio-demographic items such as positions of staff, department and gender were used to enable the identification of groups who have or have not responded to determine sample representativeness.

ASSURING QUALITY WITHIN THIS RESEARCH

Considerations of validity

Burrell and Morgan (1979), Guba and Lincoln (1985) suggest that the ontological orientation of any study should aim to represent reality. Validity refers to the extent that the research findings represent reality and the data constitute ‘accurate measurements’ of the concept the research instrument intended to measure (Sapsford, 1999, p.9). There are five kinds of validity related to social science measures. These are face validity, content validity, concurrent validity, predictive validity and construct validity (Oppenheim, 1992; Sapsford, 1999). For the purpose of conciseness, only those validity measures utilised in this research will be discussed further.

Face validity is the ability of a measure or method to assess or test what it says it assesses (Litwin, 1995). Face validity was confirmed by the following who separately and independently scrutinised the questionnaire for relevance:

A Professor

Director of Health Promotion (Health Authority)

Deputy Chief Environmental & Trading Standards Officer (City Council)

A Head of a Department

A Head of a Support Service

Support Staff member

All of the above positions, except the Head of a Support Service, were members of the Health Promoting University Steering Committee.

Content validity is a subjective measure of how appropriate the items seem to reflect the full domain of content for a particular phenomenon in question (Bryman and Cramer, 1990). In other words, when studying issues of health and stress in a university the questionnaire utilised should test the range of issues contained in the domain. Two psychologists who understood the context of this research and worked in the University of Eddington independently reviewed the questionnaire to provide content validity.

Construct validity is the most valuable and yet most difficult way of assessing a survey instrument (Litwin, 1995). It shows how well a test correlates with a set of theoretical assumptions about an abstract concept; such as the perception of stress in this research

(Oppenheim, 1992). It is important that another researcher could achieve similar results using the same tests on different occasions. Construct validity is often only determined after years of experience with a survey instrument.

Construct validity for the whole questionnaire is not known; nevertheless, the survey instrument was constructed drawing on the literature to provide an accurate measurement of the staffs reality. Furthermore, a validated tool the Perceived Stress Scale (Cohen *et al*, 1983) described in the previous chapter formed an integral part of the questionnaire. The construct validity of the PSS had been determined over time with factor analysis proving its construct validity.

Considerations of reliability

Reliability of the research instrument refers to the ability to reproduce the same results consistently on repeated trials (Oppenheim, 1992; Sapsford and Jupp, 1996; Bland and Altman, 2002). To measure reliability, the underlying assumption is that the subjects and environment have not changed in any significant way. Reliability however, is a matter of degree, because even two measurements on the same individual under similar circumstances are unlikely to duplicate each other exactly (Parahoo, 1997). The interaction between work-stress and employee are considered to be dynamic and situational (Cox and Ferguson, 1994; Cooper, Liukkonen and Cartwright, 1996) and consequently do not provide consistent conditions on all occasions. Therefore, there is a chance factor or ‘random error’, which may confound the reliability (Litwin, 1995).

Internal reliability

When items are used to form a scale they need to have internal reliability. The items should all measure the same thing so they should be correlated with one another. A useful means for measuring internal reliability is Cronbach’s alpha (α) coefficient (Bland and Altman, 1997). This coefficient is especially useful where interval data are collected such as in the Perceived Stress Scale (PSS). Cronbach’s α correlates each item with all other possible combinations of items (number of items on the measure, the sum of the individual item, variances and the variance of the distribution test scores). A coefficient correlation ranges from -1 to $+1$ and the α should not be

below 0.70 (Peirce, 1995; Clark-Carter, 1997) indicating that the instrument shows a consistency of scoring.

Cohen and Williamson (1988) report a Cronbach's α of 0.75 for the PSS. However, Peirce (1995) goes on to recommend that for an established instrument an alpha of 0.80 should be used as a reliability benchmark. As there are no reports in the reviewed literature of the PSS being administered to university staff an internal reliability score of at least 0.80 will be considered acceptable.

A split-half reliability test will also be performed to check for homogeneity. Parahoo (1997) notes that the same parameters are set for alpha suggesting that it should never be below 0.70. On the other hand, Pedhazur and Schmelkin (1991) argue that the user of the measure should determine how reliable the split-half test should be depending on the circumstances of the study. Nevertheless, Clark-Carter (1997) states that 'the 0.70 level is quoted so frequently that you would have to argue quite strongly to go below his level' (p.338).

Ethical considerations and informed consent

Liehr and Marcus (1994) suggest that inherent in all social and educational research is the demand to protect human subjects. Informed consent was assumed on receipt of a completed questionnaire. The rubric of the questionnaire explained the purpose of the study and what this entailed for potential staff respondents (shown in Appendix 3 Staff Health Questionnaire). Anonymity of individuals was assured along with confidentiality. No obligation was put on any staff members to participate, although as Sim (1991), points out; the notion of shared responsibility for research may have influenced some staff.

The self-administered questionnaire is one of the few methods of data collection that can potentially keep respondents anonymous (Parahoo, 1997). This has the advantage of giving respondents the opportunity of making their views known without being identified.

Axiological issues

Axiological issues concern the personal values of the author, which Hart (1998) suggests are ethically important. The author was an instrument in the collection, analysis and interpretation of data in this research, and remained conscious of the need to try to put aside personal values to enable the respondents' position to be presented and reflected upon without prejudice. As Seedhouse (1997) comments, an honest self-reflexive stance will help to ensure social justice is given to the staff respondents as well as being central to empowerment ideology (Tones, 1998b).

Research has many ethical implications. At the design stage, ethical approval for this research was required and granted by the university. Throughout the operational, and especially during the writing up stage, having an independent supervisor external to the University of Eddington played a part in ensuring that checks and balances were not overlooked. Thus, the integrity of this research relies on demonstrating rigorous design, systematic and accurate data collection, quality analysis and meticulous administration.

THE RESEARCH PROCESS

PHASE 1 COLLECTION OF DATA

The 1996 health survey

Phase one of this work focused on the 1996 staff health survey that provided a baseline of comparability within and between measures for the 2000 study. As discussed earlier, the Staff Welfare Liaison Committee (HPU, 1995) expressed to the university a requirement to explore stress at work in the health survey.

A structured questionnaire for anonymous written responses was designed referring to other workplace questionnaires and particularly the work of Pritchard and Pritchard (1994), discussed in the previous chapter. A detailed question-by-question breakdown and explanation are provided in Phase II of this study where adaptations made to the 1996 instrument are justified in this chapter. The full-adapted questionnaire can be found in Appendix 3.

Perceived stress scale

The perceived stress scale (PSS) discussed in the rationale uses fourteen items, which offer a forced choice response using a five point Likert scale. This scale measures how unpredictable, uncontrollable and overloaded respondents find their lives. A continuum is offered on which respondents place themselves for each statement from 'never', to 'almost never', to 'sometimes', to 'fairly often', and 'very often'. These five positions were weighted 0 to 4 for scoring purposes. This allowed assessment of perceived stress via an ordinal scale. Hicks, (1990) warns that the differences between each point on the scale are not necessarily equal and must *not* be assumed to be so. However, for scoring and analytical purposes an ordinal scale is considered adequate because it allows for the rank ordering of data and subsequent correlational analysis (Cohen and Manion, 1994).

Distribution of (PSS) within an adult population (aged over 18years) with a randomised sample ($n = 2,387$) conducted in the United States (Cohen and Williamson, 1988) revealed that mean scores for females was 20.2 and males 18.8

with a range from 0 to 45. The higher the score the more perceived stress in a respondents life (see Table 3.1 below). The mean age for this group was 42.8 years.

Table 3.1 Mean PSS Scores and Standard Deviations in the United States.

Gender	N	Mean Score Range 0 to 45 Possible range 0 to 56	SD
Male	949	18.8	6.9
Female	1406	20.2	7.8

Abstracted from Cohen and Williamson, 1988 p.48.

Table 3.1 shows the standard deviation (SD) for male and female respondents respectively as 6.9 and 7.8, thus the PSS scores deviate from the mean 18.8 by an average of 6.9 and from 20.2 by an average of 7.8. In a normal distribution, approximately 34% of scores fall between the mean and one SD either side of the mean. As a general rule of thumb, Heiman (1998) argues that for a normal distribution the standard deviation equals about one-sixth of the overall range of data.

Cohen and Williamson's findings are consistent with traditional conceptions of groups of people who are likely to be experiencing greater stress, because of demands of their environments (Black, *et al*, 1980; Obholzer and Roberts, 1994; Spark, 1994; Sternberg and Wall, 1995; European Commission, 1997) and lack of coping resources (Lazarus and Folkman, 1984; Roskies, Guerin and Fournier, 1993; Greenglass, 1995; Havlovic and Keenan, 1995; Watkinson, 2000b). Typically these include people who are:

- of relatively low socio-economic status (lower income, less education)
- in work with relatively low status and control
- young
- female

Obviously, an individual could belong to more than one of these groups with the potential stress effect essentially compounded. Cohen and Williamson (1988) examined the general population; this study will examine staff in a university setting and it will be interesting to see how these results compare.

Pilot study of the questionnaire

A pilot study was conducted using a stratified sample of fifteen staff members who were subsequently removed from the main sampling frame to prevent any bias (see Table 3.2 below).

Table 3.2 1996 Pilot Study Participants

Academic	5 (ranged from lecturer to department manager)
Administrators	3 (in different departments)
Clerical	2 (one faculty based and one school based)
Manual	2 (caretaker and plumber)
Technical	3 (included one laboratory and two IT staff)

The aim of this pilot study was to ensure that:

- Question formation was appropriate for all grades of staff and could identify the impact of working at different levels. In the rationale, the literature identified that health and stress are highly affected by class, position and the nature of work (issue of validity).
- Respondent understanding of each question could be established with common meaning (issue of reliability).
- The instrument was clear and easy to understand and complete.
- The time taken to complete the questionnaires would not be a burden on the staff and that the average completion time determined so that this could be identified in the rubric of the final version to assist respondent completion.

The response rate from the pilot questionnaire was excellent, with all 15 (100%) completed and returned and a few minor adjustments were subsequently made. In late February 1996, the questionnaire was sent to a stratified and non-randomised sample to include 214 (10%) staff, (see Table 3.3 below).

Table 3.3 The Staff Population and Sample by Position 1996

Staff Population		10% Stratified Non-randomised Sample
Academic and research	1092	109
Support	847	85
Manual	201	20
Total	2140	214

The structured questionnaire will be discussed in detail in Phase II and the findings from the 1996 survey reported in Chapter Four with those for 2000.

PHASE II - REFINING AND REPLICATING THE 1996 SURVEY IN 2000

The 2000 pilot questionnaire

Purposive interviews took place with six members of the HPU steering group (see Appendix 4) in autumn 1999 to examine the 1996 questionnaire and report of findings. The questionnaire layout, design and presentation were re-examined for ease of use from both the respondents' perspective and that of the author for coding and abstraction of data.

A similar questionnaire piloting procedure to the one described for the 1996 survey was conducted. Again fifteen members of staff were selected on a stratified basis according to their employment position. These staff were subsequently removed from the main sampling frame to prevent bias.

It was recognised that the previous survey instrument had some faults, mainly in its layout requiring some modification to ensure it was easier for respondents to complete and to assist in later data abstraction. The response rate from this second pilot questionnaire was again excellent, with all 15 (100%) fully completed and returned. There were no reported ambiguities by these respondents, meaning that staff understood the questions and responded appropriately and fully with the instructions. The average time to complete the questionnaire was around twenty minutes and this was subsequently reflected in the rubric of the main questionnaire.

The 2000 sampling frame

In an effort to improve the response rate from 37% in the 1996 survey, it was decided to sample a slightly larger number of staff and therefore increase the sample from 10% to 12%. The required sample needed to be large enough to enable the staff demographic variables to be included (age groups, gender, work status and position). This defined population demanded a sampling framework to make the study manageable and fair for the staff. Therefore a randomised selection process was adopted, this was not arbitrary or haphazard but carefully designed as it underlies the credibility, validity and precision of sample data (Cohen and Manion, 1994; Leisure and Allen, 1995) and statistical analysis (Henry, 1998), (see Table 3.4 below and Appendix 5).

Table 3.4 The Staff population and sample by position 2000

Staff Population 2000	Difference from 1996
Academic and research	- 169 = (- 15.5%)
Support (administrative, technical and clerical)	+ 64 = (+ 7.5%)
Support (manual)	+ 6 = (+ 2.9%)
Total	- 99 = (- 4.6%)
12% Randomised Sample n = 245	+ 31

Inclusion criteria

The population of staff had steadily reduced by 99 people over the four years between the surveys. In 2000 the gender breakdown of staff was 47.6% female (971) and 52.4% male (1070). The sampling process randomly selected 245 staff for this study as the target population.

Staff who were seconded or subcontracted into the university were omitted from the sample as they may not have been through any formal staff induction, cultural conditioning or be familiar with the organisation. Their inclusion may have introduced extraneous variable bias, as their main employer was not the university. Thus, the 2000 survey aimed to sample staff who regularly work in the university with each member of staff having an equal opportunity of being included in the sampling frame.

A questionnaire and self- addressed envelope were provided for return of these self-administered questionnaires. Participation in this study was assumed by the return of a completed questionnaire. A detailed account of the randomisation procedure can be seen in Appendix 5. The result of this procedure was a sample made up of the following groups of staff in Table 3.5 below.

Table 3.5 Randomised sample by position Year 2000

Randomised sample Year 2000	Staff Numbers
Academic including lecturers, senior lecturers, research staff (71) and principle lecturers, readers, professors and heads of department (38)	109
Administrators including managers	77
Technical staff including laboratory and I.T. technicians and technical managers	27
Clerical staff	15
Manual staff including tradesmen, caretakers, and hall porters	17
Total	245

Although the 1996 survey period occurred from the end of February to mid April 1996 operationally this proved impossible to mirror. During the period of 31st March to 5th May 2000, data were collected. Due to randomisation and anonymity of respondents return reminders were published in two consecutive editions of 'The Bulletin' staff newspaper circulated to all staff. The variation of data collection by one month within the academic year was not thought to have affected responses as both surveys occurred in the first half of the second semester.

THE SURVEY INSTRUMENT

The 2000 questionnaire

The introductory rubric at the top of the questionnaire was designed to set the research scene for respondents. It briefly explained who the researcher was, together with the aim

and purpose of the study and what Oppenheim (1992) calls 'respondent orientation'. The rubric also replaced an introductory letter being economical with finite resources and not burdening potential respondents with additional reading, (see Questionnaire Appendix 3). The pilot study had proved that by using simple and clear instructions within the questionnaire guided the respondents towards the required answering procedures (Oppenheim, *ibid*).

In 1996 the questionnaire was made up of ten sections that included 25 main questions comprising of 86 items, 75 closed and 11 open-ended. The 2000 questionnaire followed the same format but with three additional questions, comprising of 105 items, 91 closed and 14 open-ended. Space was allocated in both questionnaires for respondents to add their qualitative comments. A question-by-question account is given below and will be elaborated on section by section. Whilst the actual questionnaire did not use italics, for clarity they will be used here to differentiate between instruction and commentary.

Specific objectives will be indicated in the text by the appropriate objective number identified from the rationale chapter within the appropriate section of the questionnaire.

PART ONE: DEMOGRAPHIC DETAILS (QUESTIONS 1 TO 5)

Objectives addressed in part one contributed to the fulfilment of the following objectives: ii, iii and vi.

The relevance of respondents' occupational position, work status, age and gender are all factors that may influence health and stress and were discussed in the rationale.

Please tick the appropriate box

1. What is your position?

Support Staff: a. Admin.

b. Clerical

c. Technical

Manual

Academic

2. Does the University employ you: full time

or part-time

3. Tick the box that is relevant to your age in years

18 - 25	26 - 40	41 - 50	51 - 65
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Are you : Male Female

5. In which department do you work?

Identification of each respondents department also acted as a check on the spread of respondents for non-response error and can be found in Appendix 6 (Department and Sections represented).

PART TWO: HEALTH AWARENESS AT WORK (QUESTIONS 6 TO 8)

Objectives addressed in part two contributed to the fulfilment of the following objectives: i and iii.

These questions explored staff health perceptions of the university as a healthy setting. The rationale highlighted the importance and integral nature of a setting. Gender differences in health awareness and health interest were also discussed. By placing these questions early in the questionnaire, anticipated responses were able to be developed in later questions.

6. Are you interested in healthy lifestyle information and opportunities being promoted at work? Yes No

**7. Are there any examples that already exist?
(If so, please describe)**

8. How much do you think the University values your health?

- a. A lot
- b. Average
- c. Not a lot
- d. Not at all

PART THREE: WORKLOAD AND ENJOYMENT (QUESTIONS 9 TO 10A)

Objectives addressed in part three contributed to the fulfilment of the following objectives: vii and viii.

Job requirements and organisational demands were shown in the rationale to create a culture or climate towards the number of hours worked for some grades of staff.

Similarly, workload demands were shown to influence the level and nature of health and stress. This question was therefore designed to enable comparisons in workload to be measured cross-sectionally and over time.

9. *How much time per week do you spend doing work compared to 4 years ago?*

Please tick the appropriate box for your average weekly hours worked in 2000

< 20	21 - 30	31 - 40	41 - 50	51 - 60	> 61 hours
<input type="checkbox"/>					

and if you worked here in a similar capacity in or before 1996

< 20	21 - 30	31 - 40	41 - 50	51 - 60	> 61 hours
<input type="checkbox"/>					

By examining how much time staff spent doing university work in 2000 and in 1996 retrospective data for 1996 and 1992 respectively were gained.

10. *How much do you enjoy your work?*

- a. *I enjoy work most of the time*
- b. *I enjoy work as much as I would expect to*
- c. *I only occasionally enjoy work*
- d. *I don't enjoy work; it's a means to an end*

<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>
<input type="checkbox"/>

Staff were asked (above) to select from a series of closed statements about their enjoyment of work. The literature suggested that negative affectivity might bias individual perceptions of work and spread to other staff like a contagion. Seeking staffs' perceptions of work enjoyment and comparing this with work stress and stress perceptions may help to identify negative or positive affectivity.

10a. Are there any difficulties in performing your job because the job differs from the job description?

Never Sometimes Often Always

In the 2000 survey, this supplementary question (10a) was asked about job description and performance in light of the introduction of performance appraisal in the 1996/7 academic year. This will assist in the confirmation of role ambiguity or reduction of stress due to role clarity suggested in the rationale.

PART FOUR: WORK STRESSORS (QUESTION 11)

Objectives addressed in part four contributed to the fulfilment of the following objectives: iv, v, vi, vii, ix and x.

This sequence of questions required respondents to identify pertinent work stressors that related to them from a list and rank order them in importance. The questions were based on common stress factors cited in the literature including 'change', 'demand' and 'control'.

The rubric to this question (Question 11) was altered to make the instructions clearer, as a few staff in the 1996 survey had simply ticked the stressors that they identified, without attempting to rank them. The 1996 survey did not address the issues of communication as a stressor. This was amended to include the 'general level of communication' (11m) and that 'needed to do my job' (11n).

11. What do you think are the main causes of stress at work for you? Please try and be specific, I have given some examples, please rank them in order, 1 being the most important cause of stress for you at work 15 the least. You do not have to rank all 15! But you may wish to add your own examples.

a. The workload

The (*sheer*) workload (the word 'sheer' was removed from the 2000 survey as it was felt to be value laden).

b. The duplication of roles

The (*duplicity*) of roles (the word 'duplicity' was replaced with 'duplication' in 2000. Duplicity should not have been used; it was the wrong word implying 'double dealing'. Duplication proved to be clearer and more meaningful being a factor suggested in the rationale as a potential source for stress at work.

c. Lack of clarity of our aims and objectives

This question attempts to corroborate the issue of role ambiguity identified earlier.

d. The continual demand to change

e. My work surroundings (building, equipment etc)

f. Lack of resources

g. The way decisions are made

h. Staff relationships

i. Staff/student relationships

j. Keeping up to date

k. Lack of support from managers

l. Lack of support from peers

m. General level of communication (a new question)

n. Communication needed to do my job (a new question)

o. Any others (please state)

PART FIVE: THE PERCEIVED STRESS SCALE (PSS) (QUESTION 12)

Objectives addressed in part five contributed to the fulfilment of the following objectives: iii, v, vi and vii.

This next section used the 14-point perceived stress scale (PSS) discussed in the rationale. PSS measures how unpredictable, uncontrollable and overloaded respondents find their lives which provides measurements of stress. Because the PSS instrument is a global one and therefore not tied to any specific events, it taps into staffs' perceptions of ongoing stress and anticipation of future stressors.

Some of the scales in Question 12 below are positive towards stress and others not. Therefore, the scoring system had to be reversed for those negatively weighted items and this will be discussed in detail later in this chapter. Reverse scoring in the statements below are indicated by the symbol '®' which were not included on the questionnaire. By switching the positive and negative statements for questions, also prevented acquiescence response sets or what Oppenheim (1992) describes as the 'social desirability' to score questions which the respondent believes reflect peer views, or agree/disagree with their employing organisation.

12. This question is laid out in a different way to previous questions¹. It is to find out how you perceive stress.

The questions in this scale ask you about your feelings and thoughts during the last month. In each case you will be asked how often you felt, or thought, in a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often

¹ American Sociological Association, 1983. From 'A global measure of perceived stress', *Journal of Health and Social Behaviour*, 24. 385-96. Reproduced with kind permission of the author, Sheldon Cohen and the publishers. This measure is part of *Measures in Health Psychology: A User's Portfolio* written and compiled by Professor Marie Johnson, Dr Stephen Wright and Professor John Weinman. Published by the NFER-NELSON Publishing Company Ltd: Berkshire.

a. In the last month, how often have you been upset because of something that happened unexpectedly?

b. In the last month, how often have you felt that you were unable to control the important things in your life?

c. In the last month, how often have you felt nervous and stressed?

d. In the last month, how often have you dealt with irritating life hassles? ®

e. In the last month how often have you felt that you were effectively coping with important changes that were occurring in your life ? ®

f. In the last month, how often have you felt confident about your ability to handle your personal problems ? ®

g. In the last month, how often have you felt that things were going your way?
®

h. In the last month, how often have you found that you could not cope with all the things that you had to do ?

i. In the last month, how often have you been able to control irritations in your life ? ®

j. In the last month, how often have you felt that you were on top of things?
®

k. In the last month, how often have you been angered by things that were outside of your control?

l. In the last month, how often have you found yourself thinking about things that you have to accomplish ?

m. In the last month, how often have you been able to control the way you spend your time ? ®

n. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

PART SIX: COPING WITH STRESS (QUESTION 13)

Objectives addressed in part six contributed to the fulfilment of the following objective: ii.

This section was entirely open ended in order to focus on personal meanings that staff attached to coping; the rationale highlighted the importance of the staffs' perspective. Questions identified the staffs coping preferences.

13. *What do you think could be done to help people cope with stress?*

Please give practical examples; these may be taken from what you do now, from previous jobs or other aspects of your life.

- a. At an individual level*
- b. At a department or faculty level*
- c. By the University*

PART SEVEN: PHYSICAL ACTIVITY AND HEALTHY EATING

(QUESTIONS 14 TO 20)

Objectives addressed in part seven contributed to the fulfilment of the following objectives: xi and xii.

The focus of this section was directed to identify staffs' perceptions regarding physical activity and healthy eating in the university. Qualitative comments were encouraged.

14. *How important is physical activity to you?*

- a. Very important*
- b. Important*
- c. Not very important*
- d. Not at all important*

15. **How much exercise or physical activity do you take? Which of the following is true for you? - tick one box only**

- a. *I do regular exercise that increases my heart rate for at least 20 minutes twice a week or more.*
- b. *I try to exercise at least once a week*
- c. *I get my exercise by regular physical activity such as walking to work, cycling, walking the dog etc.*
- d. *I only take occasional physical activity such as going for a walk*
- e. *I really don't do any exercise or physical activity*

16. **What do you think could be done by the University or local services to help you take more exercise?**

17. **How important is healthy eating to you?**

- a. *Very important*
- b. *Not very important*
- c. *Not at all important*

18. **If you do not use the University catering facilities at work why is that?**

19. **If you use the catering facilities at work, how healthy do you think the food is? Please tick one of the statements you agree with:**

- a. *I can always get a healthy meal or snack*
- b. *I can only sometimes get a healthy option*
- c. *I can never get what I would consider to be a healthy meal or snack*

20. **What more do you think could be done to provide healthy food at the University?**

PART EIGHT: SMOKING (QUESTIONS 21 TO 23)

Objectives addressed in part eight contributed to the fulfilment of the following objective: xiii.

The focus of this sequence of questions was to quantify the number of staff who smoke and explore smoking cessation options. The rationale identified that most adult smokers wished to quit, and as a developing health promoting university, cessation courses were freely available to staff.

It was acknowledged earlier in this chapter that the potential for bias exists in self-reported health behaviours. Direct systematic observation of staff smoking behaviour was not a viable method for collection of this data and therefore indirect measures were used. Because the relationship between stress and the amount of cigarettes smoked was noted to be ambiguous in the literature, it was felt unnecessary to ask staff to quantify the number of cigarettes smoked. Moreover, any smoking is considered to be a risk to health as no safe limits have been identified. The literature also identified that stress required consideration before smoking cessation was attempted.

21. *Do you smoke cigarettes?* Yes No

If you answered No to Q 21, please move on to Q 24.

22. *If you answered Yes to Q 21, would you be interested in help to give up?*

Yes No

23. *If you answered Yes to Q 22, which of the following would help?*

a. *A smoking Cessation Course run at work at lunch-time/evenings*

b. *Individual help from an 'expert'*

c. *Just a leaflet and some advice on the phone*

d. *Any other (please state)*

PART NINE: ALCOHOL (QUESTION 24)

Objectives addressed in part nine contributed to the fulfilment of the following objective: xiv.

Direct systematic observation of staff alcohol consumption was not a viable method for collection of this data and therefore indirect measures were used. Staff perceptions of alcohol consumption will enable some tentative comparisons with the 1996 data to indicate if more staff drink within safe limits. Unlike smoking cigarettes, maximum limits for alcohol consumption have been suggested and the literature identified that moderate amounts of alcohol benefits health.

24. *On an average week do you drink more than the recommended levels of alcohol? i.e. Women - up to 14 units of alcohol per week*

Men - up to 21 units of alcohol per week

N.B. One unit = a single pub measure of spirits, or half a pint of ordinary strength lager, beer or cider or a small glass of wine.

Please tick the statement, which applies to you:

- a. *I do not drink alcohol*
- b. *I usually drink below or within the recommended limit*
- c. *I usually drink above the limit (up to 21 units as women, or up to 28 units as a man)*
- d. *I usually drink considerably more than the limit (over 28 units as a woman, or over 35 units as a man)*

PART TEN: HEALTH PROMOTION ISSUES (QUESTIONS 25 TO 27)

Objectives addressed in part ten contributed to the fulfilment of the following objectives: i and iii.

Part ten examined health information across the organisation as a whole within the context where health promotion takes place. The importance of a settings based approach to health promotion in the workplace setting was discussed in the rationale. If staff were aware of the HPU initiative, they were invited to give some examples.

25. *Are there any other areas of health, which you are particularly interested in, which you feel could be examined by the University?*
e.g. Cancer, Safety, etc.

26. *Are you aware that the University is a 'health promoting university'?*

Yes No Unsure

If Yes, in what ways have you been aware?

27. *Are you aware of any other health initiatives that the University has promoted over the past 4 years? If so what were they?*

Any further comments?

Respondents were invited to add any further information they considered appropriate to the questionnaire. In case of any difficulties the researchers telephone number, address and email address were given on the front of the questionnaire below the rubric as a contact for staff.

Final request:

Thank you very much for completing this questionnaire. Remember to return it to Graham Watkinson, Health Promotion Adviser, in the addressed envelope provided.

THE DATA ANALYSIS

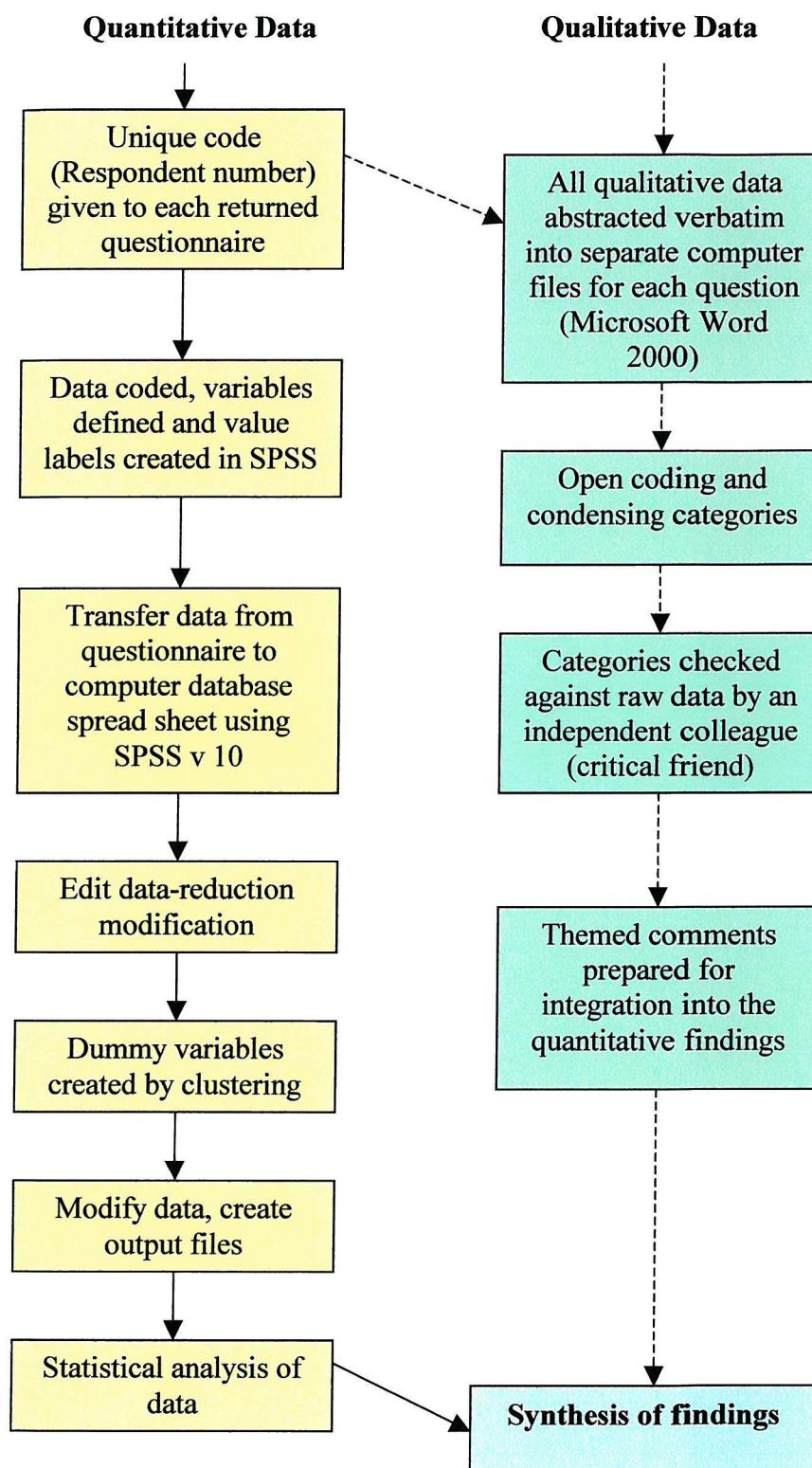
Managing the data

Each completed returned questionnaire was given a unique identification number to track each anonymous respondent. The analysis was carried out using the Statistical Package for Social Sciences (SPSS for Windows version 10). The analysis of the 1996 survey used only descriptive statistics in the form of frequencies.

Preparing the data for analysis

The raw data followed the process for data analysis similar to that put forward by Woods and Catanzaro (1988) for quantitative data and Burnard (1991) for the qualitative data (see Figure 3.2 below).

Figure 3.2 Preparing the Data for Analysis



As anticipated the 2000 survey produced more variables through the analysis procedure, as dummy variables were created through variable clustering to manipulate the data effectively. Where data were normally distributed the mean and standard deviation were stated. Statistical significance was attributed to *p*-values of 0.05 or less, that is a probability level of 95% or more (Kramer and Rosenthal, 1999). All *p*-values reported were two-sided which indicated the probability of difference in either direction.

Perceived Stress Score reversal of positively worded items

Factor analysis of the 14 item PSS reported by Cohen and Williamson (1988) revealed that 10 of the 14 items loaded positively on the first factor at 0.48 or above. Items 4, 5, 12 and 13 had relatively low readings of 0.17, 0.33, 0.11 and 0.39, respectively. The analysis further revealed that there were two factors with eigenvalues over 1. Eigenvalue shows the variance associated with each factor (Bryman and Cramer, 1990; Kinnear and Gray, 1996). (Factor 1 = 3.6 and Factor 2 = 2.2) which accounted for 25.9% and 15.7% (41.6% of the total) variance. Factor 1 weighted most heavily those items that are negatively worded (e.g. felt unable to control things, been upset, felt nervous or stressed), and Factor 2 reflected positively phrased comments (e.g. effectively coping, dealt successfully with hassles).

For the purposes of measuring perceptions of stress, the distinction between the two factors was considered irrelevant (Cohen and Williamson, 1988). Consequently, scores were obtained by summing responses to all 14 items with the appropriate items reversed, in Questions 12 d, e, f, g, i, j, and m. Total scores could therefore range from 0 to 45. A score of 45 is indicative of an individual who is extremely stressed.

CORRELATIONAL ANALYSIS

Interpreting the correlations

To assist our interpretation of correlation Borg's (1963) correlational analysis within educational research, is applicable to this study because it suggests that in studies with over 100 respondents, correlation coefficients within the range of plus or minus 0.2 to 0.65 may be statistically significant beyond the one per cent level. Moreover, Borg (*ibid*) argues that crude group predictions are possible with correlations around 0.4 but are especially useful when combined with other correlations as in this study.

A positive correlation means that as one variable increases so does the other. A negative correlation represents an inverse relationship (Dyer, 1995). The investigation of relationships was an important step in explanation and contributed to theory building (Glaser and Strauss, 1967; Hicks, 1990; Clifford and Harkin, 1997) about the nature of stress and health in the university.

Nevertheless, it is important to note that correlation does not equal causation, although correlations may be used to predict one variable from another and may be used to indicate how far there is a linear relationship between the two variables (Foster, 1993).

Bivariate correlation analysis measured the linear relationship between two variables and produced a single summary statistic, the 'correlation coefficient'. Spearman Rank (rho) a non-parametric correlation was used in this study because the data was ordinal rather than interval. Bivariate techniques are important to the survey researcher as a means of explaining data (Tones, Tilford and Robinson, 1990; Clifford and Harkin, 1997).

Statistical methods used

Spearman's rho (denoted r_s) required the use of rankings, rather than the absolute values of variables. The data-collecting instrument utilised respondent rank ordering of work stressors and a Likert scale for perceived stress, which enabled the data to be ranked. The Statistical Package for the Social Sciences (SPSS version 10) was used in all the computation via a 900MHz computer with 128MB SDRAM. Spearman r_s provided a test for statistical significance producing multiple matrices of correlations.

By inspecting the scatter plots of variables, Kinnear and Gray (1999) argue that one can discern the essential features of the true relationship, if any, between two variables. Multiple scatter plots were therefore produced, an example can be found in Appendix 7).

The level of significance is important as it answers the question 'is r significantly different from zero only because of chance variation (sampling error), or because the

true population correlation is not zero?’ Thus, it is necessary to determine both the r value and significance level when computing correlation coefficients, which SPSS performs in tandem. To determine the strength of relationship the ‘coefficient of determination’ (r^2) were used. This is simply the square of r multiplied by 100.

For comparing the variability of means between two or more groups where data were normally distributed, one-way analysis of variance (ANOVA) was performed. The significance of the difference between the groups was expressed as a p -value.

Qualitative analysis

Qualitative data were systematically abstracted from each questionnaire. Separate files were established using Microsoft Office Word 2000 for each individual question. The respondent’s unique number was placed before each piece of data to enable tracking, cross-referencing and where appropriate thematic categorisation. To enhance validity a critical friend independently generated categories from the raw data for comparison with the authors list. Discussion and adjustments were made where necessary. An abridged version of Burnard’s (1991) categorisation method for qualitative data was used.

TRUSTWORTHINESS AND ROBUSTNESS OF THE FINDINGS

Type I and type II errors

There are two main errors to be aware of when interpreting research findings, technically referred to as type I and type II errors. A Type I error means that we are misled by chance into believing in a finding that is not real even though a statistically significant difference is seen between two variables. Testing the homogeneity of variance according to Kinnear and Gray (1996) may help reduce the possibility of Type I errors. Nevertheless, by definition in social science about one in 20 significant findings will be spurious – arising simply by chance (Davies, 2001).

A further error that could be made is to conclude from a non-significant finding that there is no effect, when there is – this is known as a Type II error. In this study confidence intervals assist in preventing this error because the observed difference between variables will also be compatible with a range of other effect sizes.

Conventional wisdom dictates that the CI is created at the 95% level, which means that 95% of the time it should contain the true value of the main measure of effect or variable of interest.

SYNOPSIS OF CHAPTER THREE

This chapter has described the philosophical context and the theoretical background that underpinned the development of the structure and design of this study. The overall strategy, methods of data collection and analysis selected to achieve the objectives were quantitative. Comparisons to data collected in 1996, when the university set out to develop health promotion within the setting, were enabled to be made.

Data collection involved a randomised sample of all grades of university staff in order to develop a broad as possible perspective of the health and stress issues under investigation. A wide range of contextual work situations experienced by staff across the university were explored through the data collected by postal questionnaire. Work ranked stressors and the PSS measured perceptions of staff stress. The statistical methods used for the analysis were also described.

Rarely is the opportunity afforded to make some longitudinal empirical health and stress comparisons with university staff, something not seen in the literature examined within the rationale for this study.

The findings are presented in the following chapter.

CHAPTER FOUR

FINDINGS

Structure of this chapter

This findings chapter is divided into eight sections and concerns itself with the data gained from the health survey undertaken in the University of Eddington in 2000. As stated earlier, the aims of this thesis are:

- 1. To explore within a developing health promoting university the current factors that staff perceive as contributing towards or mediating against work stress. A subsidiary aim is to make some tentative comparisons with a health survey conducted in 1996.**
- 2. To put forward recommendations and priorities for action to improve the health of staff.**

Findings are presented to allow comparisons between the surveys of 2000 and 1996 where appropriate. A number of summary tables present the key data with more detailed tables/workings in the Appendices. Correlational analysis and statistical examination of the 2000 survey data are included to enable measures of association strength for categorical data to be analysed. No statistical tests of significance could be performed on the earlier data from the 1996 survey, as the raw data had been lost in a departmental move although the cumulative data enabled some comparisons to be made. Qualitative findings from staffs' written comments provide contextual meaning to the quantitative data. A short summary concludes each section.

The objectives that were arrived at in the Rationale Chapter will be restated in ***indented bold italics*** at the beginning of the section to which they most clearly relate. Each question discussed in the methodology chapter will be restated with the findings.

Order of this chapter

These findings are structured to explore the key issues and therefore do not necessarily follow the chronological order of the questionnaire, they are as follows:

- The respondent staffs' profile characteristics
- Interest and awareness of the staff in health and workplace health promotion
- Workload, work enjoyment and job fit
- Work stress and work ranked stressors
- Perceived stress in work and life and ranked perceived stress scores
- Correlational and Bivariate analysis of work stress and perceived stress scores
- Suggested stress coping factors
- Lifestyle factors to reduce stress and improve health

THE RESPONDENT STAFFS' PROFILE CHARACTERISTICS

(Questions 1 to 5 were asked in 1996 and 2000).

These findings contributed to the fulfilment of the following objectives:

Objective (ii). This thesis will explore suggestions made by the staff that enables them to manage stress at individual, departmental and university levels.

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion and perceptions of work stress in a university.

Objective (vi). This thesis will attempt to quantify the level of work stress perceived by university staff in different occupational positions.

Population and samples 1996 and 2000

Table 4.1 Total Population and samples 1996 and 2000

	1996	2000
Staff Population	2,140	2,041
Sample	10% = 214	12% = 245
Response	37% = 80	51.02% = 125

Table 4.1 above shows that the staffing complement in the University for 1996 numbered 2,140 from which 214 (10%) were sampled using a stratified method based on position within the organisation. Of the 214 questionnaires distributed, 80 (n = 80) were returned giving a response rate of 37%.

Chapter Three highlighted the fact that the number of academic and research staff had declined by 169 whilst administrative, technical, clerical and manual staff had increased by 70 people over the four-year period. The net effect was a total reduction of 99 members of staff from the population.

In 2000 therefore, the staff compliment stood at 2,041 from which 245 respondents were randomly selected (12.004% of staff). The subsequent response rate was much higher with 125 (51.02%) of the questionnaires returned, an increase from 37% to 51%.

Employment position and gender

Question 1. What is your position? And Question 4. Are you Male or Female?

Table 4.2a Staff employment position and gender Year 2000 with employment position for 1996 and overall gender difference.

Gender 2000		Year 2000		Gender 1996	Year 1996
Position	Male	Female	Total		Total
Academic	35	21	56		33
Admin	10	33	43		42
Clerical	1	5	6		0
Manual	3		3		4
Technical	12	4	16		1
Total	61	63	124*	M 36 F 44	80
% of Total	49.2%	50.8%	99.2%	45% 55%	100%
	*1 missing				

*One male member of staff did not complete their position in 2000.

Table 4.2a above shows that the stratified sample in 1996 failed to gain any responses from clerical staff with under-representation from both technical and manual staff.

The position gender breakdown was not available. In 2000, the sample gained representation from all groups. However, when we compare the randomised sample group with respondent group in Table 4.2b below, the under-representation from clerical and manual staff persists with technical staff achieving proportionally the highest response rate.

Table 4.2b Staff Employment Position and sample randomisation Year 2000

Year 2000 Staff position	Randomised sample Staff numbers	Respondent numbers & % of position sample
Academic	109	56 (51.4%)
Administrators	77	43 (55.8%)
Technical	27	16 (59.3%)
Clerical staff	15	6 (40%)
Manual staff	17	3 (19.6%)
Total	245	124*

*One missing value

Staff position and employment status

Question 2. Does the University employ you full time or part time?

Table 4.3 Staff employment full and part-time Years 1996 and 2000 and Gender Year 2000

Employment full or part-time		Year 1996		Year 2000 with Gender	
		Total	Male	Female	Total
Full-time	Count	67	57	49	106
	% of Total	83.4%	45.6%	39.2%	84.8%
Part-time	Count	12	5	14	19
	% of Total	15.2%	4.0%	11.2%	15.2%
Total	Count	36 Male 45% 44 Female 55% Total 80	62	63	125
	% of Total	98.75% 1 missing value	49.6%	50.4%	100.0%

Table 4.3 shows in 1996 that 83.75% of staff surveyed were full-time, 15.2% part-time and 1.25% were not categorised. In 2000, the situation remained very similar with 84.8% full-time staff and 15.2% part-time staff responding to the survey.

In 1996, the data show that 36 (45%) were male and 44 (55%) female. In 2000, male respondents accounted for 62 (49.6%) and female 63 (50.4%) in a very gender balanced randomised sample. In 2000, the gender breakdown of the total staff population was 52.4% male and 47.6% female, within the randomised sample of respondents male staff were under-represented by -2.8%.

Table 4.4 Staff Position, Employment full and part-time staff by Gender Year 2000

Position 2000	Full-time Total	Part-time Total	Grand Total	Total Male	Male Full-time.	Male Part-time.	Total Female	Female Full-time.	Female Part-time.
Academic	45	11	56	35	31	4	21	14	7
Admin	37	6	43	10	9	1	33	28	5
Clerical	4	2	6	1	1	0	5	3	2
Manual	3	0	3	3	3	0	0	0	0
Technical	16	0	16	12	12	0	4	4	0
Missing			1	1					
Total	105	19	125	62	56	5	63	49	14

Table 4.4 identified which positions part-time staff occupied. Academic staff 20% formed the largest group (4 male and 7 female) followed by administration and clerical staff. All technical and manual staff worked full-time.

Respondents Age

Question 3. Tick the box that is relevant to your age in years

Table 4.5 Respondents' Age 1996

Year 1996				
Age in years	18 to 26	26 to 40	40 to 50	50 to 65
Staff No	4	26	31	19
%	5	32.5	38.75	23.75

Table 4.5 shows the respondents age for 1996 with the majority of staff (71.25%) in the 26 to 50 age group. Respondents in 1996 were offered the following 4 choices from which to appropriate their age; 18 to 26 years, 26 to 40 years, 40 to 50 years and 50 to 65 years. This resulted in an age overlap that was corrected in the 2000 survey to read: 18 to 25 years, 26 to 40 years, 41 to 50 years and 51 to 65 years. The age category totals for 1996 are therefore approximate.

**Table 4.6 Respondents Age with Gender and Employment full or part-time
Year 2000**

Year 2000						
Age in years	Full-time total	Part-time total	Male	Female	Total 2000	%
18 to 25	3	0	1	2	3	2.4
26 to 40	35	5	14	26	40	32
41- 50	28	2	14	16	30	24
51 to 65	40	11	32	19	51	40.8
>66 years		1	1		1	0.8
Total	106	19	62	63	125	100%

Table 4.6 shows in 2000 that staff in the 26 to 50 age group had proportionally reduced from 71.25% in 1996 to 56%. Since 1996, the 51 to 65 year group increased from 23.75% to 40.8% in 2000 being indicative of an ageing workforce. One respondent (a male academic part-time staff member) was over 66 years.

Respondents departments and sections

Question 5. In which department do you work?

Respondents in the 2000 survey represented 52 of the 81 departments, sections and subsections within the University covering a wide variety of working environments. These are listed against the total staff-sampling frame in the University (Appendix 6 Department and Sections represented in the 2000 survey) and were used to check sample representativeness.

Summary: respondent staffs' profile characteristics (Questions 1 to 5)

- The staff population had reduced slightly in the second survey but achieved a higher more inclusive response rate of 51%.
- The 2000 survey was more representative of the population in terms of gender and staff position but maintained an under representation of manual staff.
- The age overlap was corrected in 2000 and points towards an ageing population of staff.
- Female staff, especially academic, were almost three times more likely to work part-time as their male colleagues.

INTEREST AND AWARENESS OF THE STAFF IN HEALTH AND WORKPLACE HEALTH PROMOTION

(Questions 6, 7, 8 and 25 featured in both surveys with questions 26 and 27 additional in 2000).

These findings contributed to the fulfilment of the following objectives:

Objective (i). This thesis will examine the way in which staff in different occupational positions perceived the university to be a setting for health promotion.

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion and perceptions of work stress in a university.

Interest in healthy lifestyle information

Question 6. Are you interested in healthy lifestyle information and opportunities being promoted at work? Yes or No

Table 4.7 Interest in healthy lifestyle information by Gender Years 1996 and 2000 Cross-tabulation

Gender	Year 1996			Year 2000		
	Yes	No	Total	Yes	No	Total
Male	31	5	36	53	9	62
Female	42	2	44	58	4	62*
Total	73	7	80	111	13	124
%	91.2%	8.8%	100%	88.8%	10.4%	99.2%

* Includes one female missing value 0.8%

Table 4.7 shows that around 90% of staff in 1996 and 2000 were interested in healthy lifestyle information and opportunities being promoted in the University. The 2000 survey identified a small percentage reduction in which male staff outnumbered female indicating less-interest in health promotion. The ratio of interested staff to non-interested remained consistent at 7:1. However, the female ratio of 22: 1 in 1996 had reduced to 15.5:1 in 2000.

Question 7. Are there any examples of healthy lifestyle information and opportunities being promoted at work (if so please describe).

Few respondents 6 (7.5%) made written comments in 1996. Sports facilities (4) and the Counselling Service (2) were mentioned. In 2000, twenty-five staff (20%) responded offering written comments falling into five categories:

- Health information for maintenance and protection
- Physical activity and exercise
- Health policies
- Mental and emotional well-being
- Healthy Eating

Each of these is detailed in Appendix 8.

Areas of other health interest

Question 25. Are there any other areas of health which you are particularly interested in, which you feel could be examined by the University?

This question further explored health awareness of staff and what they perceived as gaps in health education and promotion.

In the 1996 survey, 15 staff (18.75%) responded to this question. The following categories emerged:

- Health checks including screening, e.g. eye tests and well woman services provided at work.
- Health education information on cancer, safer sex and seminars on health.
- Ergonomic and environmental factors to improve workplace health.

The 2000 survey witnessed a much larger response as fifty-six staff (44.8%) responded with comments in the following categories:

- Health checks – staying healthy, disease prevention and health education
- General health and safety at work
- Stress related issues
- Lifestyle and social issues

Each of these is detailed in Appendix 9.

Staffs' awareness of the Health Promoting University by age gender and position***Question 26. Are you aware that the University is a 'Health Promoting University'?******If 'Yes' in what ways have you been aware?***

This question was not asked in the 1996 survey.

Table 4.8 Overall staffs' awareness of the Health Promoting University by Age Year 2000

HPU awareness by Age						
Year 2000	18 to 25	26 to 40	41 to 50	51 to 65	66>	Total & %
Yes aware		9	5	11		25 (20%)
No not aware	3	21	20	34	1	79 (63.2%)
Unsure		10	5	6		21 (16.8%)
Total	3	40	30	51	1	125 (100%)

Table 4.8 shows staff age and awareness of the HPU initiative in 2000. A minority of staff 20% were aware of this initiative with 16.8% unsure and the remaining majority of staff 63% unaware. Examining the unaware category by age reveals that 55.8% of those under 41 years and 67% of those staff aged 41 years or older were not aware of the HPU.

To ascertain if staff position or working full or part-time influenced these figures in Table 4.8 the data were cross-tabulated against position and employment status.

Table 4.9 Staffs' awareness of the HPU initiative by Position and Employment status, full or part-time Year 2000 Cross-tabulation.

Year 2000		HPU Awareness				
Employment full or part-time			Yes	No	Unsure	Total
Full-time Position	Academic	8 17%	32 71%	5 11%	45 36%	
	Admin	9 24%	21 57%	7 19%	37 30%	
	Clerical		3 75%	1 25%	4 3%	
	Manual		2 66%	1 33%	3 2%	
	Technical	3 19%	10 62%	3 19%	16 13%	
	Total	20 19%	68 65%	17 16%	105 85%	
Part-time Position	Academic	2 18%	7 63%	2 18%	11 9%	
	Admin	3 50%	2 33%	1 17%	6 5%	
	Clerical		2 100%		2 100%	
	Total	5 26%	11 58%	3 16%	19 15%	

One missing (position) value (n=124)

Table 4.9 shows that although some of the sample size of position categories is small; it appears that administration staff had the greater awareness of health promotion amongst university staff. Technical and academic staff remained less aware, and manual and clerical staff unaware of the HPU.

Table 4.10 HPU awareness by staffs' Gender and Employment status full or part-time Cross-tabulation Year 2000.

Health Promoting University Awareness Year 2000					
Employment full or part-time	Gender	Yes	No	Unsure	Total
Full-time (F.T.)	Male	7 12%	38 67%	12 21%	57 46%
	Female	13 26%	30 61%	6 12%	49 39%
	F.T. Total	20 19%	68 64%	18 17%	106 85%
Part-time (P.T.)	Male	2 40%	3 60%	0	5 4%
	Female	3 21%	8 57%	3 21%	14 11%
	P.T. Total	5 26%	11 58%	3 16%	19 15%
Grand total FT + PT n = 125	Male %	14.5%	66%	19%	100%
	Female %	25%	60%	5%	100%

Table 4.10 shows health promotion and gender awareness. Female staff were more aware and less unsure of health promotion initiatives than their male colleagues with 1 in 4 (25%) compared to 1 in 7 (14.5%) respectively. This corroborates the findings from Question 6 and suggests that awareness in health at work is linked to interest in health and health promotion.

Evidence of staff awareness about the HPU

The second aspect of Question 26 invited staff who answered 'Yes,' to being aware of the HPU, to provide written evidence on ways they were aware. Although 25 (20%) of staff answered 'Yes' to being aware of the HPU, twenty-seven (21.6%) staff went on to give reasons of how they were aware.

Staff awareness occurred via two main areas of activity:

- Health policy development
- Personal or wider campus health communications

Health Policy

Staff named a number of committees where the HPU was discussed and the implications of policy on health became evident. Examples cited included the ‘Student Academic and General Affairs Committee’ (SAGA), ‘Student Support Committee (SSC)’ and ‘Staff Student Welfare Liaison Committee’.

However, one respondent commented that:

I am not sure I would have been aware if I had not been involved through various draft health policies in committees, (R86).

I was involved with the alcohol policy (R80, 120)

Health Communications

Six staff cited the University Health Website. Two respondents mentioned discussions, talks and briefings by the Health Promotion Adviser and the Vice-Chancellor. The Health Information Points located across the campus and in Halls were cited by two staff, whilst others had seen posters, literature or had had personal contact with HPA. Comments included:

I have been directly involved in passing information on to students in halls, (R2).

I was involved in making a display for National No Smoking Day within my Department and gave up smoking shortly afterwards. So far so good!! (R7).

The sexual health and guidance bags (SHAG Bags) for students made me aware of HIV and AIDS as an issue for us all (R120).

Four staff felt that the HPU was primarily for students. (R22, 34, 76, 121)

Question 27. Are you aware of any other health initiatives that the University has promoted over the past 4 years, if so what were they?

This question was not asked in the 1996 survey.

Twelve staff (9.6%) provided written responses to question 27 stating a variety of health initiatives:

- No smoking in university buildings or individual offices
- Health and safety issues
- Meningitis awareness and prevention
- Stress management
- Healthy eating for students and staff
- Return to work interviews with the Occupational Health Nurse.

Does the university value your health?

Question 8. How much do you think the University values your health?

Table 4.11a Comparison of the value staff perceived the university placed on their health in 1996 and 2000

University Values Your Health	Year 1996 n = 80	Year 2000 n = 125
A lot	2 (2.5%)	8 (6.4%)
Average	34 (42.5%)	54 (43.2%)
Not a lot	30 (37.5%)	40 (32.0%)
Not at all	14 (17.5%)	21 (16.8%)
Missing values	(0.0%)	2 (1.6%)

Table 4.11a shows a small positive increase in satisfaction from 1996 to 2000 when 45.0% and 49.7% respectively stated that the university valued their health *average* to *a lot*. It remained that slightly more than 50% of staff do not feel that the University values their health *a lot* or *at all*.

Table 4.11b Comparison of the value staff perceived the university placed on their health by Gender in 2000

Does the University value your health?			
Year 2000	Gender		Total
	Male	Female	
A lot	4 (6.4%)	4 (6.3%)	8 (6.4%)
Average	22(35.4%)	32 (50.7%)	54 (43.2%)
Not a lot	20(32%)	20 (31.7%)	40 (32%)
Not at all	14 (22%)	7 (11.1)	21 (16.8%)
Missing	2 (3%)		2 (1.6%)
Total	62(100%)	63 (100%)	125 (100%)

Table 4.11b above shows that gender differences exist as female staff perceive the university as an organisation valuing their health *average* to *a lot* (57%) compared with (41.8%) male staff. Thus the majority of male staff felt that their health was not valued.

Staff age influenced their perception of health being valued by the university although some diversity in staff perceptions across the age range were identified. By combining staff that perceived the organisation as valuing their health *average* to *a lot*, a gradient emerged whereby younger staff perceive this more than older staff. For example in the age groups 26 to 40 years, 41 to 50 years and 51 to 65 years those who perceive the University to value their health *average* to *a lot* were 57.5%, 46.6% and 45% respectively.

Table 4.11c Comparison of the value staff perceived the university puts on their health by Position in 2000

Does the University value your health?						
Year 2000	Staff Position					Total
	Academic	Admin	Clerical	Manual	Technical	
A lot	1	3	2		2	8
Average	19	27	2	2	3	53
Not a lot	22	8	1	1	8	40
Not at all	13	5	1		2	21
Missing	1				1	2
Total	56	43	6	3	16	124

Table 4.11c shows that staff position does affect staff perceptions of value being placed on their health by the university. Administration (69%) and clerical staff (66%) feel their health is more valued than academic staff (35.7%). Indeed, 23% of academic staff felt that their health is *not valued at all*.

Further comments on health in the university

Thirty-two staff (25.6%) made additional comments at the end of the questionnaire in 2000 and those relevant to this section consisted of the following:

HPU is a good idea – I hope something comes out of this survey (R21).

I do not believe that the University have any real interest in the health of its employees (R22, and R32).

Can we see some practical outcomes/developments, please? (R67).

We need details of staff health problems, e.g. Stress so the full extent of the problem is known. (R74).

If health could become a real value in society, it might just save the planet. I'm not holding my breath! (R77).

Summary: staffs' interest and awareness in health and workplace health promotion

(Questions 6, 7, 8, 25, 26 and 27).

- Staff interest in health promotion remained high at around 90% in both surveys.
- Staff who did not wish to have health promoted at work were mainly male.
- An increase in staff awareness of health promotion activity by 15% from 1996 to 2000 was demonstrated with a broad range of examples given by staff to include health maintenance and protection for physical and mental health.
- The perceived value that staff felt the university placed on their health had increased slightly, although more or less half the staff felt the University placed little or no value on their health.
- Female staff who were younger than their peers and from administrative or clerical positions perceived the university to value their health more highly than other staff.
- When asked to suggest areas of health that the university might become involved, fewer than 20% of staff responded in 1996, but almost 45% did in 2000, suggesting a greater willingness to participate in health promotion generally. Examples included a wide umbrella of health maintenance, promotion and protection around work, stress and lifestyle issues.
- Female staff were more aware and less unsure about health promotion initiatives than male colleagues.
- Generally, older staff were less aware of the HPU than younger staff.
- Health policies and health communications raised HPU awareness amongst staff and seemed crucial to gain involvement, commitment and ownership.
- Three committees were cited as dealing with health promotion issues, two of these focused specifically on student issues. The University Health and Safety Committee (which deals with Occupational Health issues) was not mentioned by any staff respondents.
- Some staff felt that the HPU initiative was for students having no personal relevance to their health.

WORKLOAD, WORK ENJOYMENT AND JOB FIT

(Questions 9 and 10 were included in both surveys with question 10a additional in 2000).

These findings contributed to the fulfilment of the following objectives:

Objective (vii). This thesis will examine whether university staff perceived their workload demand to be a factor causing them stress.

Objective (viii). This thesis will explore whether role ambiguity at work is perceived by staff to contribute to work stress.

Question 9. How much time per week do you spend doing work compared to four years ago? (Average weekly hours).

Across the two surveys, this question therefore covered the years 1992, 1996 and 2000.

STAFFS' 1992 WORKLOAD REPORTED IN 1996.

Table 4.12 Self-reported hours worked in an average week in 1992 from the 1996 survey

Reported in 1996	Average Hours Worked in 1992 n = 27*			
	37	40	>50	Range 12 to 85 hours
Number of Hours	37	40	>50	Range 12 to 85 hours
Number of staff*	10	10	7	Mean 41.55 hours

* Missing 53 values equate to staff who were not working in the Polytechnic/University in 1992 or who were working in a different capacity than in 1996.

From the 1996 survey Table 4.12 above, shows the average weekly hours staff estimated working in 1992. From this survey, the estimated mean hours worked were 41.5 hours per week (range 12 to 85 hours) in 1992. However, full-time and part-time staff were not analysed separately. Ten staff reported to work 37 hours/week, and a further ten reported to work 40 hours/week with seven reportedly working over 50 hours/week.

STAFFS' 1996 WORKLOAD REPORTED IN 1996**Table 4.13 Self-reported hours worked in an average week in 1996 from the 1996 survey**

Reported in 1996		Average Hours Worked in 1996 n = 30*		
Number of hours		37	40	>50
Number of staff*		12	10	8
				Range 12 to 99 hours Mean 44 hours

* Missing 50

From the same survey in 1996 Table 4.12 above, thirty staff report that their average weekly hours ranged from 12 to 99 hours in 1996. The mean number of hours worked was 44 hours/week. Twelve staff reported to work 37 hours/week, with ten reporting to work 40 hours/week, and eight working 50 or more hours/week.

STAFFS' 1996 WORKLOAD REPORTED IN 2000

Table 4.14 below shows hours worked by position, gender and employment status.

Table 4.14 Self-reported hours worked in an average week in 1996 from the 2000 survey by Position, Gender and Employment full or part-time

Hours worked 1996	Position n = 96*	Full-time	Part-time	Total		
		M	F	M	F	
< 20 Hours 5.6% of staff	Academic		1F	1M		2
	Admin		2F	1M	1F	4
	Clerical				1F	1
21 to 30 Hours 9.6% of staff	Academic	3M	2F		1F	6
	Admin		4F		2F	6
31 to 40 Hours 32.8% of staff	Academic	9M	3F		1F	13
	Admin	4M	10F			14
	Clerical		3F			3
	Manual	1M				1
	Technical	6M	4F			10
41 to 50 Hours 20% of staff	Academic	12M	3F		1F	16
	Admin	3M	3F			6
	Manual	1M				1
	Technical	2M				2
51 to 60 Hours 6.4% of staff	Academic	6M	1F	1M		8
> 61 Hours 2.4% of staff	Academic	2M				2
	Admin		1F			1
Mean Hours Worked	Academic	M 43.2	F 33.5	M 37.5	F 31.3	
	Admin	M 39.3	F 33.5	M 20.0	F 23.0	
	Technical	M 39.0	F 37.5			
	Clerical		F 35.0		F 20.0	
	Manual	M 40.0				

M = Male and F = Female staff

* Missing values equate to staff who were not working in the University in 1996 or who were working in a different capacity than in 2000 (n = 29 or 23.2%).

Table 4.14 shows that ninety-six (76.8%) staff respondents worked in the university in 1996. Of the part-time staff, two possibly three, were working as much or more than full-time hours. One part-time male academic reported working between 51 to 60 hours in an average week. Nevertheless, twelve full-time staff worked less than 31 hours a week. Overall, 36 (37.5%) staff worked more than 41 hours a week.

By examining staff position alongside the reported hours worked a clearer picture emerges with workload. Around 55% of academic staff worked more than 41 hours a week, followed by 22% of administrators and 10% of technical staff. Ten academic staff (21%) and one administrator (2.8%) reported to work 51 or more hours in an average week in 1996, and 2 (4.2%) of academic staff worked 61 or more hours a week.

The mean hours of work were calculated from the mid point of scales ticked by each respondent for the overall occupational positions. Male staff perceived to working longer hours than their female colleagues in every position where comparisons could be made, but this hides a wide diversity shown in Table 4.14.

STAFFS' 2000 WORKLOAD REPORTED IN 2000

Table 4.15 Self-reported hours worked in an average week in 2000 from the 2000 survey by Position, Gender and Employment full or part-time

Hours worked year 2000	Position n = 123*	Full-time		Part-time		Total
		M	F	M	F	
< 20 Hours 2.4% of staff	Academic				1F	1
	Admin				1F	1
	Clerical				1F	1
21 to 30 Hours 8.8% of staff	Academic			1M	3F	4
	Admin	1M		1M	4F	6
	Clerical				1F	1
31 to 40 Hours 37.6% of staff	Academic	2M	2F		1F	5
	Admin	3M	22F			25
	Clerical		4F			4
	Manual	2M				2
	Technical	8M	2F			10
41 to 50 Hours 28% of staff	Academic	12M	4F	2M		18
	Admin	4M	6F			10
	Manual	1M				1
	Technical	4M	2F			6
51 to 60 Hours 16% of staff	Academic	15M	4F		1F	20
> 61 Hours 6.4% of staff	Academic	3M	3F		1F	7
	Admin	1M				1
Mean Hours Worked	Academic	M 50.4 F 50.6		M 35.0 F 35.1		
	Admin	M 41.2 F 37.1		M 25.0 F 24.0		
	Technical	M 38.3 F 40.0				
	Clerical		F 35.0		F 22.5	
	Manual	M 38.3				

M = Male and F = Female staff

* Two missing values

Table 4.15 shows that in 2000 four part-time staff were working in excess of full-time hours with one female academic working over 61 hours a week. Collectively 50.4% of staff report working on average 41 or more hours a week, representing an increase of 12.5% on the 1996 data. In 2000, 27 (48.2%) academic staff worked in excess of

51 hours a week, in relative percentage terms this represents more than a doubling of academic staff from 21% in 1996. Eight staff reported to work 61 or more hours a week, seven (12.5%) were academic staff.

Comparing staff position and hours worked in 1996 and 2000 (Tables 4.14 and 4.15 respectively) shows the number of staff whose average hours are in excess of 41 hours a week had increased. For academic staff this has risen from 26 (55%) to 45 (81%), for administrators from 7 (22%) to 11 (23%) and technical staff from 2 (16.6%) to 6 (37.5%). A reduction was observed in the number of full-time staff working part-time hours from 12 in 1996 (Table 4.14), to one male administrator in 2000 (Table 4.15).

Table 4.14 indicated that male staff perceived to work longer hours than their female colleagues in similar positions did in 1996. A reversal of this trend is seen in 2000 (Table 4.15) in technical and academic positions. Female technical staff perceive to work almost two hours longer in an average week than male colleagues. A smaller increase is seen with female academic staff. Nonetheless, when the mean hours are examined this shows a huge increase in perceived hours worked. For example, the mean hours worked by full-time female academic staff had increased from 33.5 hours in 1996 to 50.6 hours a week in 2000. Full-time clerical staff were the only group that perceived no increase in their working hours. Although a wide diversity was shown in the hours worked by individual staff, the overwhelming perception was of working more hours.

The further written comments made by staff strongly suggest that they perceive their workload to have increased. Generally, these perceptions centre around the demands of facilitating learning to large numbers of students without adequate human resources. The following comments were typical and illustrate the staffs' perceptions of workload issues:

My questionnaire might sound a bit bleak and negative however, I think the University has a very poor attitude to people's health. How can an expectation of a 9 to 12 hour day be good for either physical or mental health? (R82).

The main problem is easily identified- Management are making increasing demands on staff time; very often with little or no reference to contracted hours. (R83).

WORK ENJOYMENT BY STAFF POSITION

Question 10. How much do you enjoy your work?

Table 4.16 How much do you enjoy your work Year 1996 and 2000 by Gender and Employment status?

How much do you enjoy your work?	Year 1996 Number and % of staff	Year 2000 Gender and %		Year 2000 Full-time/part-time number and % of staff
		Male	Female	
Most of the time	47 (59%)	29 (46.7%)	41 (65%)	Ft 56 Pt 14 70 (56%)
As much as I would expect to	23 (29%)	17 (27%)	15 (23%)	Ft 27 Pt 5 32 (25.6%)
Occasionally	7 (9%)	14 (22%)	4 (6.3%)	Ft 18 Pt 0 18 (14.4%)
I don't enjoy my work, it's a means to an end	2 (3%)	2 (3.2%)	3 (4.7%)	Ft 5 Pt 0 5 (4%)
	n = 79*	n = 62	+ 63	n = 125

* One missing value

Table 4.16 shows that in 2000, staff who enjoyed their work *most of the time* had reduced slightly from 59% in 1996 to 56% in 2000. Similarly, staff replying that they enjoyed their work as much as *they would expect to* reduced from 29% in 1996 to 25.6% in 2000. Staff who only *occasionally* felt enjoyment from their work increased from 9% in 1996 to 14.4% in 2000 with 2% not enjoying work at all in 1996 rising to 4% in 2000. Generally, work enjoyment appears to be reducing.

Gender differences existed with 88% of female staff enjoying their work *as much as they would expect to* or more compared to 73% of males. Males were more likely to only *occasionally* enjoy their work compared to female staff 22% to 6.3%

respectively. Staff with part-time employment status all enjoyed their work *most of the time* or *as much as they expected*.

Work enjoyment and age revealed a weak positive relationship with older staff tending to gain the most enjoyment from their work (see Table A 4.1 Appendix 10).

Exploration of staff position and work enjoyment (see also Table A 4.2 Appendix 10) revealed the following findings:

Academic staff work enjoyment

The majority (85%) of academic staff responding enjoyed their work *most of the time* or *as much as they would expect to*. Around one in eight (12.5%) *occasionally* felt enjoyment and 1.7% had *no enjoyment*.

Administration staff work enjoyment

The majority (76.7%) of administrators responding enjoyed their work *most of the time* or *as much as they would expect to* with 16% gaining *occasional* enjoyment and 6.9% expressing *no enjoyment at all*. Although a small percentage, administrators formed the largest sub-group experiencing *no enjoyment of work at all*.

Clerical staff work enjoyment

Although this sub group of staff comprised just 4.8% of the total staff sampled, they all (100%) enjoyed their work *most of the time*.

Manual staff work enjoyment

A range from enjoyment *most of the time* to *occasional enjoyment* was evenly spread amongst the small number of respondents (2.4%).

Technical staff work enjoyment

Technical staff showed the full range of choices for enjoyment of work, (75%) enjoyed their work *most of the time* or *as much as they would expect to* and 18.5% *occasionally* enjoying work with 6% expressing *no enjoyment at all*.

JOB FIT

Question 10a. Are there any difficulties in performing your job because the job differs from the job description?

Four alternatives were offered: *Never, Sometimes, Often and Always*. This was an additional question included in the 2000 survey because a system of annual appraisals had been introduced since the 1996 survey. The following set of five pie charts Figure 4.1 (below) show the different positions of staff and whether they had difficulties in performing their job.

Figure 4.1 Pie Charts Showing Staff Position and Difficulty Performing Work (Question 10a.)

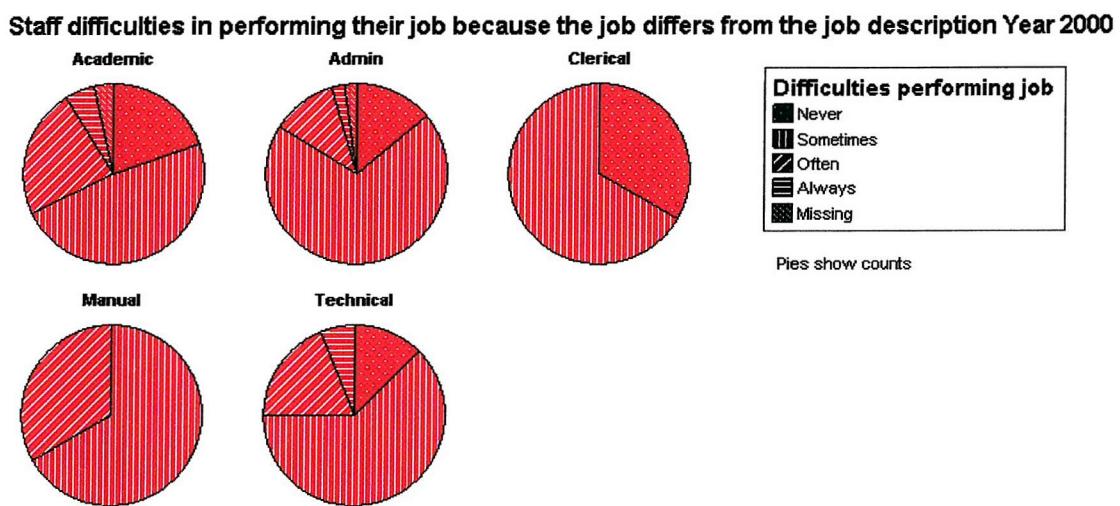


Figure 4.1 Each pie is read from the 12 O'clock position clockwise with the shading in the key being the order in the pie. The sample sizes of staff positions need to be considered and are as follows: Academic n = 56, Administrators n = 43, Clerical n = 6, Manual n = 3 and Technical n = 16 plus 1 missing value (n = 125).

Overall (58.4%) of staff perceived that *sometimes* they had difficulty in job performance because their work differed from their job description. An equal number (17.6%) *never* or *often* had job difficulty although some variations were seen across the different positions. None of the clerical staff responded *often* and none of the

manual staff responded *never*. 21.6% of staff *often* and *always* had difficulty performing their job and variations were seen across the staff positions (see Table A 4.3 Job Fit, Appendix 11).

A third of manual staff, 28.5% of academic, 24.9% of technical and 13.9% of administration staff *often* and *always* perceived difficulty because their job differed from their job description.

I am expected to do a particular job on a daily basis when the job was not covered in the job description and now forms a major part of my work (R1).

Work differs from my job description. (R49 and R110).

Four staff commented that they had no job description (R29, 65, 82, 109).

A manager stated that:

Clarity of purpose needs to be better communicated (R79).

Whilst an academic suggested that:

Better definition of goals and objectives (R107) were required.

Summary of workload, work enjoyment and job fit

(Questions 9, 10 and 10a)

- The 1996 and 2000 samples as highlighted earlier were similar but not homogenous and therefore the data have to be interpreted with some caution.
- An increase in hours worked was perceived by staff across the period 1992 to 1996 and 2000.
- The more comprehensive analysis of data from the 2000 survey revealed large differences in the perceptions of hours worked across and within occupational positions.
- From 1996 to 2000, the proportion of academic staff working 51 or more hours a week had more than doubled.
- The greatest increase in workload occurred with academic and technical staff.

- Work enjoyment had slightly decreased overall from 1996 to 2000. Female staff enjoyed their work more than male staff and work enjoyment seemed to increase with age or with part-time working.
- Clerical staff, as a small subgroup, reported the most work enjoyment, worked within their contracted hours and have not increased the hours worked.
- Academic staff were second in this ‘enjoyment league’ but consistently reported working the highest number of hours with 81% exceeding their contractual working hour obligations in 2000.
- Technical and administration staffs ranked ‘work enjoyment’ third and fourth respectively although 37% and 23% of these staff worked above their contractual employment hours.
- Administration and manual staff seemed to gain the least enjoyment from their work but the small sample size of this later staff subgroup limits generalisation.
- Comparing staff enjoyment at work with hours worked and job fit generated a complex picture.
- Over half the staff in 2000 reported to *sometimes* having difficulty with their work because it differed from their job description. Academic, technical and manual staff perceived the most difficulty.

This section has shown that workload, type of work and job fit are vital issues in the staffs overall enjoyment of their work experience. The work experience is explored in more detail to determine staff perceptions of the main causes of work related stress.

WORK STRESS AND RANKED WORK STRESSORS

(Question 11a to o. Questions 11m and 11n were additional to the 2000 survey)

These findings contributed to the fulfilment of the following objectives:

Objective (iv). This thesis will examine whether staff perceived organisational change, communication and communication technology at work as factors contributing to work stress.

Objective (v). This thesis will explore whether staff perceived the level of job demand and control to be factors contributing to or mediating against work stress.

Objective (vi). This thesis will attempt to quantify the level of work stress perceived by university staff in different occupational positions.

Objective (vii). This thesis will examine whether university staff perceived their workload demand to be a factor causing them stress.

Objective (ix). This thesis will explore whether staff sees positive staff relationships, along with support from peers and managers, as contributing to or mediating against their perceived work stress.

Objective (x). This thesis will explore whether the work environment is perceived as a contributory factor to stress by university staff.

Question 11. What are the main causes of stress at work for you?

A method of weighting each work related stressor was devised for the analysis of the 2000 data. Weighted values were assigned to these work related stressors (ordinal data) according to the ranking from each individual respondent. As this question consisted of 15 items including *any others*, a maximum of 15 points denoted the most stressful of these for each individual. (For example, if 'the workload' was ranked by

the respondent as 1st it was given 15 points, if 'keeping up to date' was ranked 2nd then 14 points were awarded and so on).

Table 4.17 The main ranked self-reported causes of Work Related Stress Years 1996 and 2000

Work related stressors	Year 1996	Year 2000
The workload	Rank 1	Rank 1
The way decisions are made	Rank 3	Rank 2
The general level of communication	*	Rank 3
The lack of resources	Rank 2	Rank 4
The continual demand to change	Rank 6	Rank 5
Lack of clarity of our aims and objectives	Rank 8	Rank 6
The lack of support from managers	Rank 5	Rank 7
Keeping up to date	Rank 9	Rank 8
The communication needed to do my job	*	Rank 9
My work surroundings, building and equipment	Rank 4	Rank 10
Other stressors identified by respondents	Not ranked	Rank 11
The duplication of roles	Rank 7	Rank 12
Staff relationships	Rank 10	Rank 13
The lack of support from peers	Rank 11	Rank 14
Staff student relationships	Rank 12	Rank 15

* These variables, both of which focus on communication, were not included in the 1996 survey.

Table 4.17 presents the ranked summary results of work stressors for 1996 and 2000. These self-reported work related stressors are individually explored in rank order from the year 2000 survey. Each stressor was examined separately in Tables 4. 18a to 4.18m. To simplify the mass of data, the 1996 findings are presented in the text and the 2000 survey findings presented using constructed summary data tables and text. Again to enable data to be tracked the detailed data tables, from which these summary tables are abstracted, are in Appendix 12 Work Stress Tables 1 to 15.

Six staff did not rank their *stressors* so these could not be included within the scoring. Nevertheless, where these staff made qualitative comments these have been incorporated into the findings under *any others* in question 11o.

THE WORKLOAD

Year 2000 Rank 1st (Year 1996 Rank 1st as 'The sheer workload')

Abstracted from Work Stress Table 1 Question 11a (Appendix 12)

Table 4.18a The workload stress with employment full or part-time Year 2000

The workload stress score	Total	Full-time	Part-time	Total
		67	11	78
Mean Score 13.1 (Range 3 to 15)	SD = 2.55	63%	57%	63%

Table 4.18a in 2000 shows that seventy-eight (63%) staff ranked *the workload* as their highest stressor with no significant differences between full or part-time staff. The mean score out of potential 15 points was 13.1 with a Standard Deviation (SD) of 2.55. A remarkable consistency was demonstrated over this highest ranked stressor. In 1996, fifty-one staff (63.75%) placed *the sheer workload* as the highest work-related stressor.

The written comments made by staff support the earlier findings around working hours. For example, academic staff commented:

...teaching overload – too many students on courses. (R18).

... too many courses with reduced staffing, deterioration of academic standards. (R105).

...there is a problem of being on a 0.5 contract but being expected to do admin and research as well as teaching and then having to do as much research as full-time members of staff to get into the RAE. (R38).

Support staff suggested they face:

...a conveyor belt of multi tasking. (R91).

...ongoing demands, with many loose ends to track and when one task is completed another swiftly takes its place. (R37).

...a shift pattern that is very demanding and could be simplified. (R117).

THE WAY DECISIONS ARE MADE

Year 2000 Rank 2nd (Year 1996 Rank 3rd)

Abstracted from Work Stress Table 2 Question 11a (Appendix 12)

Table 4.18b The way decisions are made with employment full or part-time Year 2000

The way decisions are made stress score		Full-time	Part-time	Total
	Total	70	13	83
Mean Score 12.4 (Range 6 to 15)	SD = 2.03	66%	68%	66.4%

Table 4.18b shows that in 2000 *The way decisions are made* ranked second as a work-related stressor with a mean score of 12.4 and SD of 2.03. Nevertheless, eighty-three (66.4%) staff included this as a stressor in their rankings more than any other stressor, but with a lower ranking than *workload*. In 1996, forty-five (56%) staff included *the way decisions are made* ranking it in third place.

The written comments made by staff are indicative of a university organisation where communication is complex and decision-making seems to lack comprehensive transparency to those who have to operationalise work.

As I suppose might be the case in many large organisations I frequently find myself frustrated by decisions made by other departments which affect plans/organisation on my department. For example, rooms let out to others, which I had booked, the estates department decorating areas needed for teaching. Lack of communication possibly because you never know who/how many different people need to be informed about each little decision made. (R81).

The secrecy of managers, the seemingly unaccountability of managers and their unwillingness to communicate is used by them as a means of control. (R108).

THE GENERAL LEVEL OF COMMUNICATION

Year 2000 Rank 3rd (This variable was not included in the 1996 survey)

Abstracted from Work Stress Table 3 Question 11m (Appendix 12)

Table 4.18c The general level of communication with employment full or part-time Year 2000

General level of communication stress score	Full-time		Part-time	Total
	Total	62 (59.04%)	5 (26%)	67 53.6%
Mean Score 11.5 (Range 5 to 15)	SD = 2.62			

Table 4.18c *the general level of communication* stress score was ranked by sixty-seven (53%) staff in the 2000 sample as causing them stress. The mean stress score was 11.5 and SD of 2.62. The issue of information communication technology (ICT) was embraced within general communication.

Up until this point in the ranking, there had been a consistency between the 105 full-time members of staff and the 19 part-time staff relating to work stressors. Just five part-time staff ranked this stressor. Communication overload particularly via emails were highlighted:

Email overload and dealing with bureaucracy slows effective communication. (R95).

Seemingly endless emails, dealing with correspondence and bureaucracy. (R24).

There is an unwillingness of some managers to communicate ... silence is a means of control. (R108).

In general, I have found the University management to be inept, ineffectual and often just wrong headed regarding communication. (R44).

This last statement was similarly supported by (R50, R61).

THE LACK OF RESOURCES

Year 2000 Rank 4th (Year 1996 Rank 2nd)

Abstracted from Work Stress Table 4 Question 11f (Appendix 12)

Table 4.18d Lack of resources and employment full or part-time Year 2000)

Lack of resources stress score	Total	Full-time	Part-time	Total
		53 (50.47%)	10 (52.6%)	63 50.4%
Mean Score 11.7 (Range 1 to 15)	SD = 3.21			

Table 4.18d above shows 63 (50.4%) staff agreed that *lack of resources* caused them stress at work 2000 as the fourth ranked stressor. Once more, there was a consistency between full and part-time staff. The mean score was 11.7 with a SD of 3.21.

In 1996, 45 (56.25%) staff ranked this the second highest stressor, suggesting that resources have improved with a reduction in stress perceptions. Nevertheless, one respondent suggested that resources remained an issue:

Lack of internal-service and cooperation between departments' means that departments tend to work against each other, compounding this is the 'centre versus the faculties' dilemma, which ultimately is a resource issue. (R13).

THE CONTINUAL DEMAND TO CHANGE

Year 2000 Rank 5th (Year 1996 Rank 6th)

Abstracted from Work Stress Table 5 Question 11d (Appendix 12)

Table 4.18e Continual demand to change with position and employment full or part-time Year 2000

Continual demand stress score	Total	Full-time	Part-time	Total
		53 (50.47%)	8 (42.1%)	61 48.8%
Mean Score 11.4 (Range 2 to 15)	SD = 3.83			

Table 4.18e shows just fewer than half the staff respondents 61 (48.8%) in 2000 ranked *the continual demand for change* as the fifth stressor. This represented an

increase of 17.5% on the 1996 findings suggesting that the issues around demand change, including the perceived pace of change, were increasing for some but not all staff. There were no significant differences between full and part-time staff with an overall mean score of 11.4 and SD of 3.83. In 1996, 25 (31.25%) staff ranked *the continual demand for change* as the sixth highest stressor. If the additional stressors of communication had not been included in the 2000 questionnaire this stressor would have ranked fourth.

The written comments made by staff illustrate aspects of change at work including dealing with the unexpected.

Indecision and poor planning leads to last minute changes that frequently occur. (R4).

Learning new techniques and changes in the academic year pattern raises my stress levels more. (R67).

I am in a new post, which is also new to the University, so at present feel constrained by change and lack of experience in my new position. (R92).

THE LACK OF CLARITY OF OUR AIMS AND OBJECTIVES

Year 2000 Rank 6th (Year 1996 rank 8th)

Abstracted from Work Stress Table 6 Question 11c (Appendix 12)

Table 4.18f Lack of clarity of our aims and objectives with employment full or part-time Year 2000

Lack of clarity of our aims and objectives stress score		Full-time	Part-time	Total
	Total	49	8	57
Mean Score 11.5 (Range 4 to 15)	SD = 3.07	46.6%	42.1%	45.6%

Table 4.18f shows the sixth stressor ranked by 57 (45.6%) staff for *lack of clarity of our aims and objectives* in 2000 with a mean score of 11.5 and SD of 3.07. In 1996, twenty-three (28.75%) ranked this stressor as eighth overall. In 2000, 17% more staff

were not clear regarding their individual, department or university's aims and objectives and this appeared to cause them stress.

Earlier in question 10a, 24% of staff were reported to experience difficulties *often* or *always* in performing their job because of differences in their work compared to their job description. Individual performance review (IPR) formally became part of the appraisal system in 1996 and should have lead to raised staff awareness concerning aims and objectives. It therefore seems on an individual level that for some staff clarity of purpose is an issue that leads to stress. At the organisational level, the expansion of the university lacks clarity to some staff who perceive it to be the cause of dissonance. For example:

The organisation is territorial and introspective. At times, its sheer size is a negative factor clouding departmental objectives. (R13).

THE LACK OF SUPPORT FROM MANAGERS

Year 2000 Rank 7th (Year 1996 rank 5th)

Abstracted from Work Stress Table 7 Question 11k (Appendix 12)

**Table 4.18g Lack of support from managers with employment full or part-time
Year 2000**

Lack of support from managers stress score		Full-time	Part-time	Total
	Total	47	6	53
Mean Score 11.9 (Range 2 to 15)	SD = 3.01	44.76%	31.5%	42.4%

Table 4.18g shows that 53 (42.4%) staff perceived a *Lack of support from managers* as a source of stress in 2000 ranking this as the seventh stressor. In 1996, 26 (32.5%) staff ranked this stressor suggesting a 10% increase by 2000. The mean stress score was 11.9 with a SD of 3.01. Although reduced in the ranking from fifth to seventh place, this stressor produced more qualitative written comments than any other stressors in this section of the questionnaire. The notions of 'inept' managers or 'mismanagement' permeated many comments, the blame being apportioned to a few senior staff.

Stress arises mainly from the naïve incompetence and total lack of administration or management ability of most senior staff up to and including the Directorate. (R115).

This statement above was similarly supported by R44 and R61.

The notion of negative affectivity cannot be ruled out from some respondents. The issues of ‘position struggle’ and ‘lack of understanding’ of role function seem to be perpetuated by some managers who treat people by ‘position status’ and not as individuals. For example:

...poor prospects for promotion or even recognition of work well done. (R52)

Mangers could make staff feel as though they are doing a good job and are not just part of the furniture. The negative attitude of some academic staff to support staff and lack of support from senior management of the university is stressful. (R63).

Staff relationships are a divided class, academic/management v. technicians – with management not understanding the roles and requirements of technical staff. (R77).

Although some staff perceived *support from managers* to have reduced since 1996, the majority did not, with 57.6% not ranking this item, signifying that they are either supported in their work or ambivalent to management support.

KEEPING UP TO DATE

2000 Rank 8th (Year 1996 Rank 9th)

Abstracted from Work Stress Table 8 Question 1Ij (Appendix 12)

Table 4.18h Keeping up to date employment full or part-time Year 2000

Keeping up to date stress score		Full-time	Part-time	Total
	Total	43	11	54
Mean Score 11.1 (Range 3 to 15)	SD = 3.25	40.95%	57.8%	51.4%

Table 4.18h above, *Keeping up to date* ranked eighth in 2000 with a ranking of ninth in 1996 when 20 (25%) of staff selecting this as a workplace stressor. In 2000, the mean score was 11.1 with a SD of 3.25. Part-time staff found keeping up to date more stressful than their full-time equivalents with almost 58% compared to 41% identifying this as a work-related stressor.

The mean stress score for this stressor for part-time staff was 11.36. Of course, *keeping up to date* can have a number of different meanings, for example, an academic might feel it means keeping abreast of their specialist subject area or balancing a research budget. Whereas, for an administrator, it could be ensuring that planning meetings and the appropriate agenda/minutes are prepared and distributed on time. For a staff member responsible for manual work keeping up to date might mean completing the daily duties and tasks. For some staff it could, mean all of these things.

The written comments made by staff support the earlier findings around workload and demand, for example:

...there are far too many things to do in the time available. (R67).

...any technological failure increases the volume of work generated by the event, making it almost impossible to keep up to date with work. (R118).

The continual demand to keep a paper trail of even the minor matters detracts from keeping on top of the work. (R8).

THE COMMUNICATION NEEDED TO DO MY JOB

Year 2000 Rank 9th (This variable was not included in the 1996 survey)

Abstracted from Work Stress Table 9 Question 11n (Appendix 12)

Table 4.18i Communication needed to do my job with employment full or part-time Year 2000

Communication needed to do my job stress score	Full-time		Part-time	Total
	Total	47	5	52
Mean Score 10.6 (Range 2 to 15)	SD = 3.18	44.7%	26.3%	41.6%

Table 4.18i shows the ninth ranked stressor *Communication needed to do my job* with 52 respondents (41.6%) ranking this item, with a mean score of 10.6 and SD 3.18. It seems that part-time staff find communication to do their job less stressful than full-time staff with 26.3% and 44.7% respectively ranking this.

In the questionnaire, this stressor was placed immediately below the stressor *General level of communication* to force staff to discriminate between them. Fifteen fewer respondents responded to this question than the *General level of communication*. The written comments made by staff suggested that the pragmatic issues of *communication to do my job* were hampered by:

...the many different people needed to be informed about each little decision made, communication at a local level is problematic and often territorial.
(R81)

...departments tend to be introspective and not relate over operational issues hence clashes with timetables and room bookings. (R4).

Similar comments were offered by R13.

MY WORK SURROUNDINGS

Year 2000 Rank 10th (Year 1996 rank 4th)

Abstracted from Work Stress Table 10 Question 11e (Appendix 12)

Table 4.18j My work surroundings, building and equipment with employment full or part-time Year 2000

My work surroundings stress score		Full-time	Part-time	Total
	Total	45	7	52
Mean Score 10.1 (Range 1 to 15)	SD = 3.58	42.8%	36.8%	41.6%

Table 4.18j *My work surroundings, building and equipment* ranked tenth in 2000 moving down from the fourth ranked position in 1996. However, in 1996 twenty-seven (33.7%) staff ranked this stressor and 41.6% did so in 2000. The mean score was 10.1 and SD of 3.58.

The working environment provoked written comments that can potentially affect physical health as well as mental health:

I don't have too much stress but the air conditioning system and working temperatures are appalling and certainly do not promote good health physically. (R11).

Equipment failure, noise levels (of machinery) smell from the lift fluid -which leaks into our office is awful. (R51).

Information technology training learning new skills e.g. email overload and the unreliability of network system is stressful. (R95).

Similar comments were made by R116.



OTHER WORK STRESSORS

Year 2000 Rank 11th (Year 1996 item not ranked)

(Respondents were free to state their own stressors)

Abstracted from Work Stress Table 11 Question 11o (Appendix 12)

Table 4.18k Any other stressors with employment full or part-time Year 2000

Other stressors stress score	Full-time		Part-time	Total
	Total	37		
Mean Score 12.1 (Range 1 to 15)	SD = 3.34	35.2%	5	42
			26.3%	33.6%

Table 4.18k shows the mean score 12.1 and SD 3.34. Respondents were invited to be specific and rank order *any other* work-related causes of stress. Forty-two (33.6%) added further work related comments. Although five part-time (academic and administration) staff of the nineteen commented, their scores were either 14 or 15 giving a mean score of 14.6 (see Work Stress Table 11 in Appendix 12).

Equipment failure particularly information technology was ranked amongst the top stressor within this category despite equipment being an explicit component of question 11e. Other stressors stated were *pending redundancy* (R64) ranked as number one, although this respondent went on to point out that:

...even though the University has handled this well, [redundancy] it is constantly in the back of my mind. (R64).

Having initiatives blocked by a senior manager [named] also ranked 1. (R79).

Other work issues raised but not ranked included:

Being stuck at a PC all day. (R28).

...lack of job security. (R21).

...the poor prospect for promotion or even recognition for work well done (R52).

From academic staff, the issues of:

...repetitive marking of large volumes of exam scripts/ exercises. (R94)

or *dealing with an increasing number of students with mental health problems (R2).*

Some cynicism was expressed toward initiatives such as '*Investors in People*' (R54).

Although two staff members commented that compared with industry, the pressures within the University are *not very great* (R90, R109).

Another commented that:

...perhaps I am insensitive because I am unaware of suffering from any stress at all. (R90).

THE DUPLICATION OF ROLES

Year 2000 Rank 12th (Year 1996 Rank 7th)

Abstracted from Work Stress Table 12 Question 11b (Appendix 12)

Table 4.18l The duplication of roles (the duplicity of roles 1996) with employment full or part-time Year 2000

The duplication of roles stress score	Full-time		Part-time	Total
	Total	38	4	42
Mean Score 11.2 (range 5 to 15)	SD = 2.89	36.1%	21%	33.6%

Table 4.18l shows *The duplication of roles* ranked in twelfth place as a stressor by forty-two (33.6%) staff with a mean stress score of 11.2 and SD of 2.89. Although only four part-time staff ranked this stressor, their mean score was 14.75 out of 15. It seems that for these individuals they may often have to duplicate roles which may be an aspect of working part-time.

The re-wording of this statement to make it clearer and more meaningful obviously altered the meaning. In 1996, 24 staff (30%) felt that '*the duplicity of roles*' was a stressor, suggesting notions of deceit, cunning and underhand practices. However, no further evidence was provided to substantiate this.

The written comments made by staff support a level of role confusion. On one hand, three staff wrote that they did not have a job description, it was out of date or they could not remember what it was (R29, R65 and R82). This suggests that they turn up for work and do what they feel is required or asked of them. Whereas on the other hand some staff reported to be *very flexible and self-directed* so have *no difficulties within their work even when there is some duplication of work* (R94, 109, 110).

STAFF RELATIONSHIPS

Year 2000 Rank 13th (1996 rank 10th)

Abstracted from Work Stress Table 13 Question 11h (Appendix 12)

Table 4.18m Staff relationships with employment full or part-time Year 2000

Staff relationships stress score		Fell-time	Part-time	Total
	Total	40	5	45
Mean Score 9.9 (Range 2 to 15)	SD = 3.73	38.1%	26%	36%

Table 4.18m *Staff relationships* with other staff ranked thirteenth with forty-five (36%) staff viewing this as stressful. In 1996, this stressor was ranked tenth by 14 (17.5%) staff.

Staff relationships for the majority of staff at the time of the survey seemed not to cause them stress. Part-time staff appeared less stressed than full-time staff.

Two members of staff (both male academics) singled out a senior manager for comment stating that they (the senior manager) '*appears*' to block initiatives causing them (the staff respondents) *great personal stress* (R50, 79).

The lowest work related stress rankings, were ranked by fewer respondents potentially affecting the generalisability of these findings. Rowntree (1981) suggested that providing the sample contained more than 30 observations, sample SD was a sufficiently accurate measurement of population SD. For the final two ranked stressors (14th and 15th) the number of respondents fell below 30 to 28 observations for each. Therefore, the majority of staff perceived *Lack of support from peers* and similarly *Staff/student relationship* as the least problematic confirming the findings from the 1996 survey when they were ranked eleventh and twelfth respectively. The abstracted data tables for these stressors are not reported, although the data tables can be found in Appendix 12 (Work Stress Table 14 Question 11.1 and Table 15 Question 11i).

Summary of work stressors

(Questions 11a to 11o.)

- The proportion of staff who responded in this section for 2000 exceeded that from the 1996 survey for every item. Some items received proportionally a three-fold increase in responses.
- Generally as mean scores for work related stressors decreased the standard deviation increased, suggesting the shared importance to staff of the highest ranked work stressors.
- The ranked scoring was a summation of the weighting given to individually ranked work stressors so that the total score from all the respondents was used to rank each item.
- *The workload* remained the highest ranked stressor demonstrating a consistency of findings in 1996 and 2000. Issues over demands exceeding resources were raised especially around time, staff and technology.
- *The way decisions are made* received the largest response rate with two-thirds of staff perceiving this as an issue but with a total score slightly lower than *the workload*.
- *The general level of communication* concerned over half the staff, seemingly less of an issue for part-time than full-time staff. ICT was suggested by respondents as a source of techno-stress.
- *Lack of resources* showed a small improvement in 2000 with a subsequent reduction in its ranking.
- *Continual demand to change* illustrated that perceptions around change have increased by 17.5% in 2000 compared to 1996.
- *Lack of clarity of our aims and objectives* was perceived as causing stress to just under half of those responding an increase of 17% since 1996 when formal appraisal was implemented across the organisation. Academic staff particularly showed a similar pattern to that observed with difficulties in performing their job and job fit (question 10a).
- *Lack of support from managers* was perceived to have increased with proportionately 10% more staff ranking this item in 2000. Nevertheless, slightly more than half the respondents did not rank this item.

- *Keeping up to date* was an issue for half the staff especially those who worked part-time in 2000. The proportionate number of staff affected by this stressor had doubled since 1996.
- *Communication needed to do my job* was perceived as less of an issue for part-time staff in than those working full time. It seemed that at a local level in some areas communication challenged staff because it was perceived as officious.
- *My work surroundings including building and equipment* reduced its position from a ranking of fourth to tenth place even though a larger proportion of staff responded to this stressor in 2000 than 1996.
- *Any other work stressors* were ranked by a third of the staff respondents in 2000 offering a range of work-based issues. Although only a quarter of part-time staff ranked this item, overall their scores were 2.5 points higher than that of full-time staff.
- *Duplication of roles* was perceived to be an issue for a third of staff, more so for full-time than part-time. Two thirds of staff were either ambivalent or perceived that duplication of roles did not cause them stress.
- *Staff relationships* were perceived as stressful by a third of respondents with proportionately a doubling of responses in 2000 compared to 1996. The majority of staff did not perceive relationships with other staff stressful.
- The final two work based stress items, *lack of support from peers* and *staff student relationships* were ranked by less than a quarter of respondents suggesting that for the majority of staff interpersonal relationships generally are not perceived to contribute towards stress at work.

University staffs' perceptions of work stress and their ranking of these items have been explored. Care has been taken to not make assumptions but honestly report the data. The next section examines the perceived stress levels reported by staff.

PERCEIVED STRESS IN WORK, LIFE, AND RANKED PERCEIVED STRESS SCORES

(Question 12 comprised of 14 elements of which all were asked in both surveys).

These findings contributed to the following objectives:

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion and perceptions of work stress in a university.

Objective (iv). This thesis will examine whether staff perceived organisational change, communication and communication technology at work as factors contributing to work stress.

Objective (vi). This thesis will attempt to quantify the level of work stress perceived by university staff in different occupational positions.

Objective (vii). This thesis will examine whether university staff perceived their workload demand to be a factor causing them stress.

The findings from this section are presented in order of their overall scoring beginning with Table 4.19 the Sum of Perceived Stress Scores. Reverse scoring was utilised to calculate the total score for each member of staff as discussed in Chapter Three. All staff fully completed this section in the questionnaire ($n = 125$) therefore means and standard deviations are reported with confidence on each element.

THE SUM OF PERCEIVED STRESS SCORES BY GENDER 1996 AND 2000

Table 4.19 The sum of Perceived Stress Scores 1996 and 2000 by Gender

	Year 1996		Year 2000	
Number of Respondents	Valid 80		Valid 124	
Missing	0		1	
Mean PSS	23.95		22.92	
Range	8 – 47		5 – 44	
Std. Deviation	7.65		8.0749	
Gender	Male	Female	Male	Female
Valid Counts	36	44	62	63
Range	9 – 47	8 – 34	5 – 44	11 – 40
Mean PSS	23.3	24.6	22.2	23.6
Std Deviation	8.9427		7.1220	

Table 4.19 shows a slight reduction in mean PSS scores for both sexes in the 2000 data compared to the 1996 data. Male staff PSS is slightly lower than female staff in both surveys and this mirrored earlier findings discussed in the previous chapter. Nevertheless, the mean PSS were consistently higher in the university than in a general population reported by Cohen and Williamson, (1988) with mean scores of 18.8 for male and 20.2 for females.

Unfortunately, as discussed earlier in this Chapter, the breakdowns of scores for individual respondents for 1996 were not available for manipulation and comparison with the more comprehensive 2000 data. The total scores discussed above were the only comparisons able to be made. Nevertheless, each item of the PSS in question 12 was explored in detail and the findings reported in their ranked order. This provided an up to date picture beginning with a summary of staff gender and position perceived stress scores.

As a means to maximise information gained from this study, multiple conditions of each independent variable for the PSS in 2000 were analysed using analysis of variance (ANOVA).

Gender and perceived stress scores year 2000

Gender differences in perceived stress scores were observed, as female staff reported higher levels of perceived stress than males. However, ANOVA revealed that these differences were not statistically significant $p = .331$. Although, comparing the gender specific PSS scores within the sample groups (male and female) showed a consistency of scoring with a statistically significant 'homogeneity of variance' $p < .000$.

The sum of the PSS scores for gender and staff position are presented in histograms which therefore summarise the total PSS scores.

Female staffs' PSS Year 2000

Figure 4.2 Gender: Female Staff - Sum of Perceived Stress Scores Year 2000

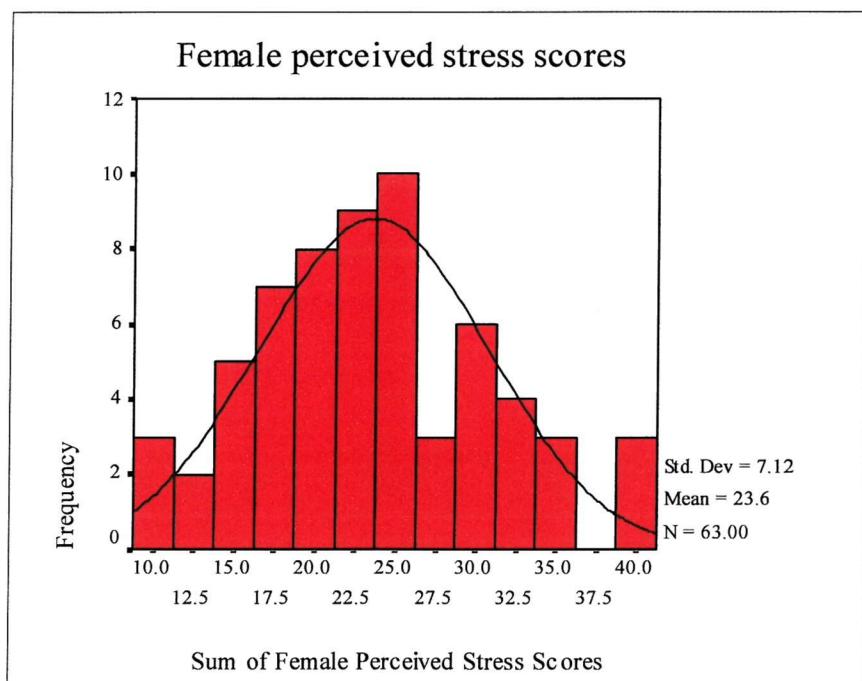


Figure 4.2 shows the sum distribution of PSS for female staff in 2000 with a mean score of 23.6, range 11 to 40 points and standard deviation of 7.12.

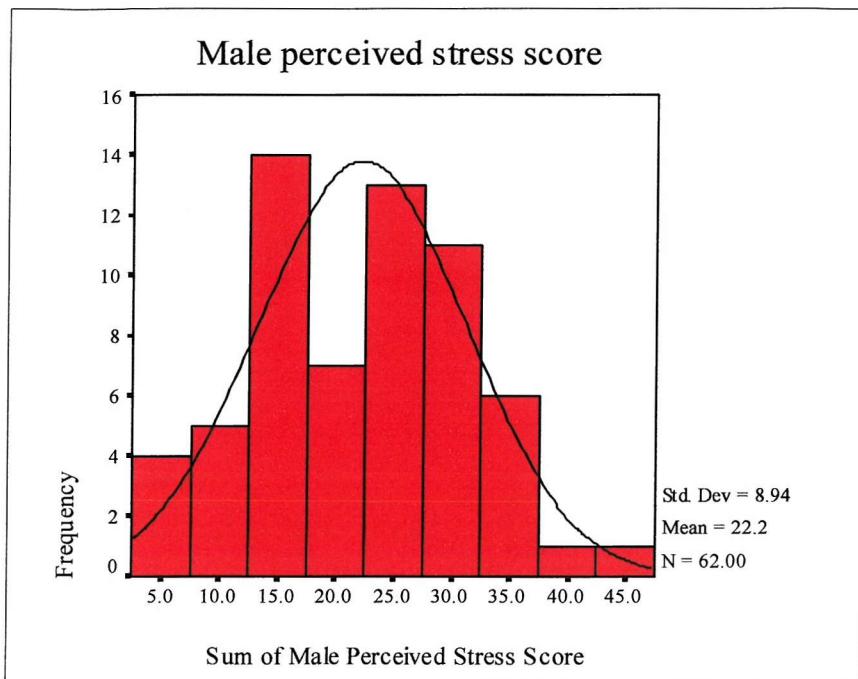
Male staffs' PSS Year 2000**Figure 4.3 Male Staff - Sum of Perceived Stress Scores Year 2000**

Figure 4.3 shows the sum distribution of PSS for male staff in 2000 with a mean score of 22.2, range 5 to 44 points and standard deviation of 8.94.

STAFF POSITION AND PERCEIVED STRESS SCORE

The following two Figures 4.4 and 4.5 depict the sum of PSS scores for academic and administrative staff. Technician, clerical and manual staff data were not included in similar figures because of the smaller size of their respective samples.

Academic staffs' PSS Year 2000

Figure 4.4 Academic Staff - Sum of Perceived Stress Scores Year 2000

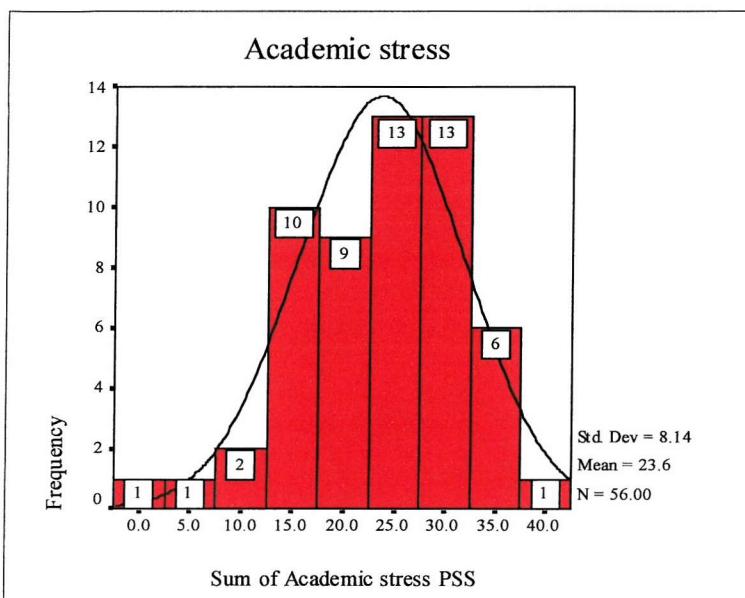


Figure 4.4 shows the distribution of PSS for academic staff in 2000. This group of staff had the highest scores equalling the overall female staff PSS for 2000.

Administration staffs' PSS Year 2000

Figure 4.5 Administration Staff - Sum of Perceived Stress Scores Year 2000

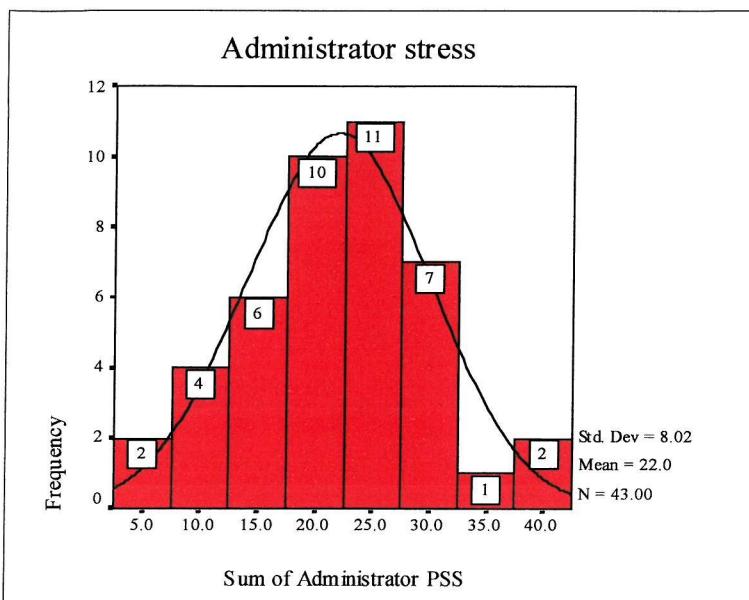


Figure 4.5 shows the distribution of PSS for administration staff in 2000. This group of staff had the second highest score that is slightly less than the overall male staff PSS for 2000.

RANKING OF THE PERCEIVED STRESS SCORES (PSS)

As previously stated scores for each individual PSS statement ranged from 0 to 4.

Each of the 14 elements in Question 12 were examined and their sum used to ascertain which items were indicative of the most perceived stress. Table 4.20a below provides an overview of the ranking after which each item contributing to the PSS overall score are systematically analysed using the rank order in this table.

**Table 4.20a Summary of Ranked Perceived Stress Scores in Question 12
Year 2000**

Rank of PSS	Statement: In the last month, how often have you...	Score totals
1 st	12.1 found yourself thinking about things that you have to accomplish?	394
2nd	12.k been angered by things that were outside of your control?	301
3 rd	12.c felt nervous and stressed?	256
4 th	12.h found that you could not cope with all the things that you had to do?	252
5 th Joint	12.b felt that you were unable to control the important things in your life?	218
5 th Joint	12.a been upset because of something that happened unexpectedly?	218
7 th Joint	12.n felt difficulties were piling up so high that you could not overcome them?	211
7 th Joint	12.g felt that things were going your way?	211
9 th	12.m been able to control the way you spend your time?	193
10 th	12.d dealt with irritating life hassles?	185
11 th	12.j felt that you were on top of things?	173
12 th Joint	12.e that you were effectively coping with important changes that were occurring in your life?	168
12 th Joint	12.i been able to control irritation in your life?	168
14th	12.f felt confident about your ability to handle your personal problems?	135

PERCEIVED MENTAL DEMAND

Ranked 1ST **Question 12l. In the last month, how often have you found yourself thinking about things that you have to accomplish? Year 2000**

Score sum of 394 and mean score of 3.152. (SD = 1.05)

Table 4.20b Thinking about things that you have to accomplish
Frequency values for Q.12l.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	6	4.8	4.8
Almost never	1	.8	5.6
Sometimes	21	16.8	22.4
Fairly often	37	29.6	52.0
Very often	60	48.0	100.0
Total	125	100.0	

(See PSS Table 1 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20b shows the highest-ranking perceived stress scored item with a sum of 394 and a mean score of 3.152 and SD of 1.05. 91% of male and 80% of female academic staff indicate that they had *future accomplishments on their minds fairly often* and *very often*. For administrators this figure falls slightly to 80% for male and 69% for female. A reversal was seen with female technicians 75% and male technicians 66% responded *fairly often* or *very often*. The small sample size of clerical and manual staff lends weight to the overall pattern that 85% of male and 71% of female staff think about things they need to accomplish *fairly* and *very often*. Just 5.6% of the staff sampled *never* or *almost never* have future accomplishments on their minds.

PERCEIVED FRUSTRATION

Ranked 2ND **Question 12k. In the last month, how often have you been angered by things that were outside of your control?**

Score sum of 301 and mean score of 2.43. (SD = 1.07)

Table 4.20c Angered by things that were outside of your control
Frequency values for question 12.k.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	6	4.8	4.8
Almost never	14	11.2	16.0
Sometimes	52	41.6	57.6
Fairly often	29	23.2	80.8
Very often	24	19.2	100.0
Total	125	100.0	

(See PSS Table 2 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20c shows the second ranking perceived stressor concerns being *angered at things outside of respondent's individual control*. The mean score was 2.43 and SD 1.07. Over half (52%) the female academic staff perceived this item as stressful compared to 45% of male academics in the combined *fairly often* and *very often* categories. This compared to 40% and 33.3% of male and female administrators respectfully.

Although the respondent numbers are small, 66% of both clerical and manual staff place being angered by things outside of their control *fairly often* and *very often*. Overall, slightly more male staff (44.26%) perceived being angered by things they cannot control than (41.2%) of female staff. Although 8% of males never perceived being angry in the last month, this was a finding not repeated with female staff. The psychological aspects of anger, resulting from low or perceived low levels of control or autonomy are contributors to the stress response and may be psychologically and physically harmful with long term exposure.

PERCEIVED FEELING NERVOUS AND STRESSED

Ranked 3RD Question 12c. In the last month, how often have you felt nervous and stressed?

Score sum of 256 and mean score of 2.06. (SD = 1.15)

Table 4.20d Felt nervous and stressed
Frequency values for question 12.c.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	13	10.4	10.4
Almost never	24	19.2	29.6
Sometimes	48	38.4	68.0
Fairly often	24	19.2	87.2
Very often	16	12.8	100.0
Total	125	100.0	

(See PSS Table 3 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20d shows the third ranked PSS related to how often the staff *felt nervous and stressed* which brought a broad range of responses from staff. The mean score was 2.06 and SD of 1.15. By combining the categories *never* and *almost never* as well as *fairly often* and *very often* the overall response to feeling nervous and stressed is 29.6% *never* and *almost never* with 38.4% feeling this way *sometimes* and 32% perceiving this stress *fairly often* and *very often*.

The response from male staff was very balanced varying by just two percentage points across these three categories (34%, 32% and 32% respectively). Some wider differences exist within position of staff with half the administrators seemingly feeling less nervous or stressed than the 35% of academic and 16% of technical staff who did so.

Amongst female staff the response perceptions of feeling nervous and stressed are more varied across the range of *never* and *almost never*, *sometimes* and *fairly often* and *very often* (23.8%, 44.4% and 31% respectfully) perceiving this item. Again, position reveals a wider diversity of responses. 57% of female academic staff and

18% of administrators feel nervous or stressed *fairly often* and *very often*. When the categories *sometimes*, *fairly often* and *very often* are combined 64% of male and 76.2% of female staff report feeling nervous or stressed in the past month.

PERCEIVED NOT COPING WITH DEMAND

Ranked 4TH *Question 12.h. In the last month, how often have you found that you could not cope with all the things that you had to do?*

Score sum of 252 and mean score of 2.0. (SD = 1.24)

Table 4.20e Could not cope with all the things that you had to do
Frequency values for question 12.h.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	16	12.8	12.8
Almost never	28	22.4	35.2
Sometimes	38	30.4	65.6
Fairly often	24	19.2	84.8
Very often	19	15.2	100.0
Total	125	100.0	

(See PSS Table 4 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20e shows the fourth ranked PSS, examining how often staff felt that they *could not cope with all the things that they had to do*. A mean score of 2.0 and SD of 1.24. Combining categories as in the previous PSS will make the analysis more meaningful in light of the sample size.

Largely, a balanced response can be seen with 35.2% of staff responding *never* and *almost never* to ‘not’ coping with demands made of them. A further 30.4% suggested that *sometimes* they could not cope and 34.4% were regularly not coping (*fairly often* and *very often*).

Across the three combined categories male and female responses were *never* and *almost never* 37% and 34% respectfully, *sometimes* 22.9% and 30% followed by *fairly often* and *very often* 39.3% and 34%. Male and female academic staff are the highest stressed group with 42% perceiving that they cannot cope with all the things they had to do compared to 31% of technical staff. Administration staff scored the

lowest stress points with 20% of male and 24% of female administrators indicating that they *fairly often* and *very often* could not cope with demands.

The notions of time pressure, workload and or difficulty in performing work are bound up in this stressor as activity in and outside of work.

PERCEIVED LACK OF CONTROL

Ranked joint 5TH **Question 12. b. In the last month, how often have you felt that you were unable to control the important things in your life?**

Score sum of 218 and mean score of 1.7. (SD = 1.28)

Table 4.20f Unable to control the important things in your life
Frequency values for question 12.b.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	24	19.2	19.2
Almost never	34	27.2	46.4
Sometimes	32	25.6	72.0
Fairly often	20	16.0	88.0
Very often	15	12.0	100.0
Total	125	100.0	

(See PSS Table 5 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20f shows that this joint fifth ranked PSS concerns its self with the perceptions of staff regarding their *inability to control important things in their lives*. The mean score is 1.7 and SD 1.28. Category combination as in the previous PSS assists in the analysis showing that 46.4% of staff (49% male and 42% female) *never* or *almost never* feels unable to control important things in their lives. In other words, these staff feels ‘in control’. The entire sample of manual staff fit into this group. Feeling unable to control things *sometimes* was as issue for 25.6% of staff and is problematic for 28% being *fairly often* and *very often* an issue.

Gender differences are greatest around the *sometimes* category with more female staff 31% than males 19.6% feeling *sometimes* stressed. Consequently the *never/ almost never* and *fairly often/very often* scores are higher for males. Again, the group of staff who perceive this stressor *fairly often* or *very often* are academic staff with 42% of male and 33% of females.

PERCEIVED UNCERTAINTY

Ranked joint 5TH Question 12a. In the last month, how often have you been upset because of something that happened unexpectedly?

Score sum of 218 and mean score of 1.7. (SD = 1.15)

Table 4.20g Upset because of something that happened unexpectedly
Frequency values for question 12.a.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	20	16.0	16.0
Almost never	33	26.4	42.4
Sometimes	45	36.0	78.4
Fairly often	16	12.8	91.2
Very often	11	8.8	100.0
Total	125	100.0	

(See PSS Table 6 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20g shows how often staff perceived being *upset unexpectedly*. Acute issues in life or chronic issues that unexpectedly cause upset ranked joint fifth in the PSS with a mean score of 1.7 and SD 1.15. Overall, 21.6% of staff felt upset by these unexpected issues *fairly often* or *very often* over the past month. Category combination of *sometimes*, *fairly often* and *very often* reveals that 62% of male and 54% of females perceive this stressor.

Those who perceived most stress from this item were academic staff with 37% of males and 33% of females feeling upset because of something that happened unexpectedly. Largely, 36% of staff felt unexpectedly upset *sometimes*, although 38% of female academics and 51.5% of female administrators reported to *never* or *almost never* being unexpectedly upset. Clerical, manual and technical staff rarely felt upset with just 8% of this combined group reporting *fairly often* or *very often* responses.

PERCEIVED BEING OVERWHELMED

Ranked joint 7TH *Question 12n. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?*

Score sum of 211 and mean score of 1.7. (SD = 1.31)

Table 4.20h Difficulties were piling up so high that you could not overcome them
Frequency values for question 12.n.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	29	23.2	23.2
Almost never	29	23.2	46.4
Sometimes	35	28.0	74.4
Fairly often	16	12.8	87.2
Very often	16	12.8	100.0
Total	125	100.0	

(See PSS Table 7 Appendix 13 for Gender and Staff position cross-tabulation).

Tale 4.20h reveals that *difficulties that are piling up so high that staff felt overwhelmed*, ranked this as joint seventh PSS with a mean score of 1.7 and SD 1.31. Slightly more than a quarter of staff felt that difficulties were piling up so high that they could not overcome them *fairly* or *very often* 26% male and 25.3% female. Male and female consensus varied by just three percentage points across the combined categories.

Academic staff perceived the most stress with 34% of male and 33% females responding *fairly* or *very often*. The largest combined category was *never* and *almost never* with 49.1% male and 42.8% female, although 66% of male technical and manual staff proportionally formed the largest sub group. When the categories of *sometimes*, *fairly often* and *very often* were combined 50.8% of male and 57% of female staff perceive difficulties piling up.

PERCEIVED CONTROL AND CONFIDENCE

Ranked joint 7TH Question 12g. In the last month, how often have you felt that things were going your way?

Reversed scoring was used for this question giving a mean score of 1.7 and a sum of 211 (SD = 1.04)

Table 4.20i Things were going your way
Frequency values for question 12.g.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	8	6.4	6.4
Almost never	14	11.2	17.6
Sometimes	49	39.2	56.8
Fairly often	39	31.2	88.0
Very often	15	12.0	100.0
Total	125	100.0	

(See PSS Table 8 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20i shows how often staff perceived things to be *going their way*. The PSS mean score was 1.7 and SD 1.04. This was the first of the positive statements in these rankings. For scoring purposes, score reversal was undertaken as described earlier and in Chapter Three. All the remaining ranked PSS statements also required score reversal.

Feeling that *things were going 'their' way* was scored *sometimes* by 39.2% of staff although female staff scores generally, focused on the middle ground of *sometimes* 50.7% this compared to 27.8% of males. Positive feeling *things are going my way* were favourably reported *fairly* or *very often* by 43.2% of staff with 50.8% of male and 34.9% female staff. Male administrators 70% lead this position breakdown followed by male academics 47.2% and female administrators 39.4% then female academics 33.3%.

A much lower number of staff 17.6% felt that this *never* or *almost never* applied to them with 21% male and 14.2% female respondents. A third of male technical staff perceived that things *never* or *almost never* went their way.

PERCEIVED AUTONOMY

Ranked 9TH Question 12 m. In the last month, how often have you been able to control the way you spend your time?

Reversed scoring was used for this question giving a mean score of 1.5 and a sum of

193. (SD = 1.04)

Table 4.20j Able to control the way you spend your time
Frequency values for question 12.m.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	5	4.0	4.0
Almost never	16	12.8	16.8
Sometimes	41	32.8	49.6
Fairly often	43	34.4	84.0
Very often	20	16.0	100.0
Total	125	100.0	

(See PSS Table 9 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20j shows *how often staff have been able to control the way they spend their time*. This PSS has a mean score of 1.5 and SD 1.04. The issue of autonomy in how much a person controls their time is the focus on this ninth ranked PSS.

Some clear gender differences emerge with female staff twice as likely as males to lack control in how they spend their time with just 11.4% of males responding *never* or *almost never* compared to 22.2% of female staff. This gender difference is mirrored with academic staff of which 14.2% of male and 28.5% female lack control over their time. For those who feel that they have control over how they spend time 60.6% of male and 41.2% of female staff responded *fairly* or *very often*. This 3:2 gender ratio is repeated with administration staff.

PERCEIVED IRRITATING DEMANDS

Ranked 10TH Question 12d. In the last month, how often have you dealt with irritating life hassles?

Reversed scoring was used for this question giving a mean score of 1.5 and a sum of 185 (SD= 1.13)

Table 4.20k Deal with irritating life hassles
Frequency values for question 12.d.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	8	6.4	6.4
Almost never	11	8.8	15.2
Sometimes	41	32.8	48.0
Fairly often	36	28.8	76.8
Very often	29	23.2	100.0
Total	125	100.0	

(See PSS Table 10 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20k depicts how often staff perceive dealing with *Irritating life hassles*. As a PSS this ranked tenth with a mean score of 1.5 and a SD 1.13. It examines the frequency that staff dealt with irritations at work and in their home life. Over half the staff 52% dealt with irritating life hassles *fairly often* or *very often*. Nevertheless, there is a gender difference of 14.5-percentage points with 44.2% of male and 58.7% of female staff responding this way.

The group that deals with the most irritations *fairly* and *very often* were female academic staff 76.2% followed by female administrators 51.5%. Male academic 45.7%, technical staff 41.6% and administrators 40% were followed by female technical staff 25%. No female academic or technical staff responded that they *never* or *almost never* had to deal with life irritations. Male administrators and academic staff deal less with irritating life hassles than any other group with 30% and 28.5% responding *never* or *almost never*.

PERCEIVED CONTROL OF DEMAND

Ranked 11TH Question 12j. In the last month, how often have you felt that you were on top of things?

Reversed scoring was used for this question giving a mean score of 1.4 and a sum of 173. (SD = 0.84)

Table 4.20l Felt that you were on top of things
Frequency values for question 12.j.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Almost never	11	8.8	8.8
Sometimes	44	35.2	44.0
Fairly often	52	41.6	85.6
Very often	18	14.4	100.0
Total	125	100.0	

(See PSS Table 11 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20l shows how often staff felt that they were *on top of things* which ranked as the eleventh PSS and conveys the notion of control. The mean score was 1.4 and SD of 0.84. No staff members felt that they were *never* on top of things, so this column has not been included in the table above. 8.8% of staff *almost never* felt on top of things although this equates to 4.9% of male and 12.7% of female staff. The majority of staff *fairly* and *very often* 56% felt that they were on top of things. The difference between male 57.3% and female 53.9% staff results in a gender difference of just 3.4%. Between staff positions, these differences are more pronounced.

No male administrators, manual staff or female technicians were in the *almost never* category whereas 15.1% of female administrators and 9.5% of female academics were. As a group 70% of male administrators, 58% of male technicians, 48.5% male academics and all the male manual and clerical staff felt *fairly* and *very often on top of things*. All the female technicians, 57% of female academic and 51.5% of female administrators felt *fairly* and *very often on top of things*.

By combining the *almost never* and *sometimes* categories 46% of female and 42.2% of male staff perceive that they are not *on top of things*.

PERCEIVED EFFECTIVELY COPING

Ranked joint 12TH Question 12e. In the last month how often have you felt that you were effectively coping with important changes that were occurring in your life?

Reversed scoring was used for this question giving a mean score of 1.4 and a sum of 168 (SD = 0.92)

Table 4.20m Effectively coping with important changes
Frequency values for question 12.e.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	1	.8	.8
Almost never	12	9.6	10.4
Sometimes	39	31.2	41.6
Fairly often	50	40.0	81.6
Very often	23	18.4	100.0
Total	125	100.0	

(See PSS Table 12 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20m shows how staff perceive their coping ability with important changes in their lives ranking this joint twelfth on the PSS with a mean of 1.4 and SD 0.92. Overall, the majority of staff felt that they *were effectively coping with important changes* in their lives with 60.6% of male and 58.8% of female staff responding *fairly* and *very often*.

There was a consistency with scores between and within staff groups. Across the three collapsed categories of *never* and *almost never*, *sometimes*, and *fairly often* and *very often* percentage differences between genders was 0.9%, 2.8% and 2.8% respectfully. 11.4% of male staff and 9.5% of females placed themselves in the *never* and *almost never* category suggesting that they were not effectively coping with change.

PERCEIVED CONTROL OF IRRITATIONS

Ranked joint 12TH *Question 12i In the last month, how often have you been able to control irritations in your life?*

Reversed scoring was used for this question giving a mean score of 1.3 and a sum of 168. (SD = 0.90)

Table 4.20n Able to control irritations in your life
Frequency values for question 12.i.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	2	1.6	1.6
Almost never	8	6.4	8.0
Sometimes	43	34.4	42.4
Fairly often	50	40.0	82.4
Very often	22	17.6	100.0
Total	125	100.0	

(See PSS Table 13 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20n shows staff perceptions about *controlling personal life irritations* ranking this item as the joint twelfth PSS with a mean of 1.3 and SD 0.90. The vast majority of staff felt that they were more often than not in control of life irritations that affected them. Two male technical staff (16.6%) felt that they were *never* in control of their irritations although this was not problematic for female technical staff. Academic staff 11.5% male and 9.5% female were *almost never* able to control irritations compared to 9.8% male and 6.3% of female staff generally.

A larger gender difference appears between those staff that felt they were *sometimes* in control 26.2% male and 42.8% female, although this difference is reversed when being *fairly often* and *very often* are considered, 63.9% male and 50.7% female.

PERCEIVED CONFIDENCE DEALING WITH PROBLEMS

Ranked 14TH Question 12 f. In the last month, how often have you felt confident about your ability to handle your personal problems?

Reversed scoring was used for this question giving a mean score of 1.1 and a sum of 135. (SD = 0.93)

Table 4.20o Felt confident about your ability to handle your personal problems
Frequency values for question 12.f.

Year 2000	Frequency	Valid Percent	Cumulative Percent
Never	2	1.6	1.6
Almost never	6	4.8	6.4
Sometimes	30	24.0	30.4
Fairly often	49	39.2	69.6
Very often	38	30.4	100.0
Total	125	100.0	

(See PSS Table 14 Appendix 13 for Gender and Staff position cross-tabulation).

Table 4.20o depicts the breakdown of staff in their *confidence in ability to handle personal problems*. This item ranked the least stressful of all the PSS with a mean score of 1.1 and SD 0.93. Almost 70% of staff felt confident *fairly often* or *very often* in handling their personal problems with 77% of male and 61.9% of female, a difference of 15.1%. The most confident group were academic staff with 82.8% male and 76.2% female responding *fairly* or *very often*.

Overall, 6.4% of staff *never* or *almost never* felt confident in handling their personal problems. 12.5% of technical staff and 9.3% of administration staff were in this *never* or *almost never* category. No male academic staff was in this ‘under-confident’ group with just 4.7% of female academics.

It seems therefore that staff are generally confident in handling their personal problems and that the preceding more highly ranked PSS stressors relate more to work than personal life.

CRONBACH'S ALPHA -HOMOGENEITY OF THE PERCEIVED STRESS SCORE

To ensure the internal consistency and reliability of the PSS scale, Cronbach's alpha (discussed earlier in Chapter Three) was utilised. The PSS consisted of two main concepts, the 'overwhelming' aspects of perceived stress and the 'coping' aspects (those with reversed scoring). To ensure reliability each concept had been treated as a sub-scale with 7 negative (Alpha 1) and 7 positive (Alpha 2) perceived stressors.

The overwhelming aspects of stress (Alpha 1) produced an $\alpha = .8551$ and the coping aspects of perceived stress (Alpha 2) an $\alpha = .6572$. Alpha 2 was below the 0.7 level generally agreed for reliability whereas Alpha 1 was well above it. Cohen and Williamson (1988) reported a Cronbach's alpha of 0.75 for the PSS as a whole.

A further method was therefore utilised to check for homogeneity - the split half technique. The items of the PSS instrument were divided into two equal halves as above with seven items in each. A correlation was undertaken between the scores of the two halves, Alpha 1 and Alpha 2. Although the split reduces the reliability of the instrument, this loss of magnitude can be corrected using the Spearman-Brown correction factor (0.6959) which SPSS v 10 automatically performed.

The split half technique resulted in similar findings to the Cronbach's α for parts 1 and 2 producing the 14 item PSS Alpha for this study of 0.82 which is perfectly acceptable being above the 0.80 threshold previously discussed in Chapter Three for an established instrument and well above the 0.7 benchmark.

ANOVA of staffs' Confidence without stress

Table 4.21 Two-way ANOVA summary of staff who felt confident in handling personal problems and not feeling nervous or stressed

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	11.068	1	11.068	13.994	.000 ^a
Residual	97.284	123	.791		
Total	108.352	124			

a. Predictors: (Constant), Nervous or stressed

b. Dependent Variable: Confident in handling personal problems

Table 4.21 compares the two-way ANOVA of self-reported feelings of not being *nervous or stressed* with feeling *confident in ability to handle personal problems* and shows a strong positive relationship, which is highly significant ($p = <0.000$) or less than 1 in 10,000 of this occurring by chance. This is graphically demonstrated in Figure 4.6.

Figure 4.6 Confident and not nervous in handling personal problems

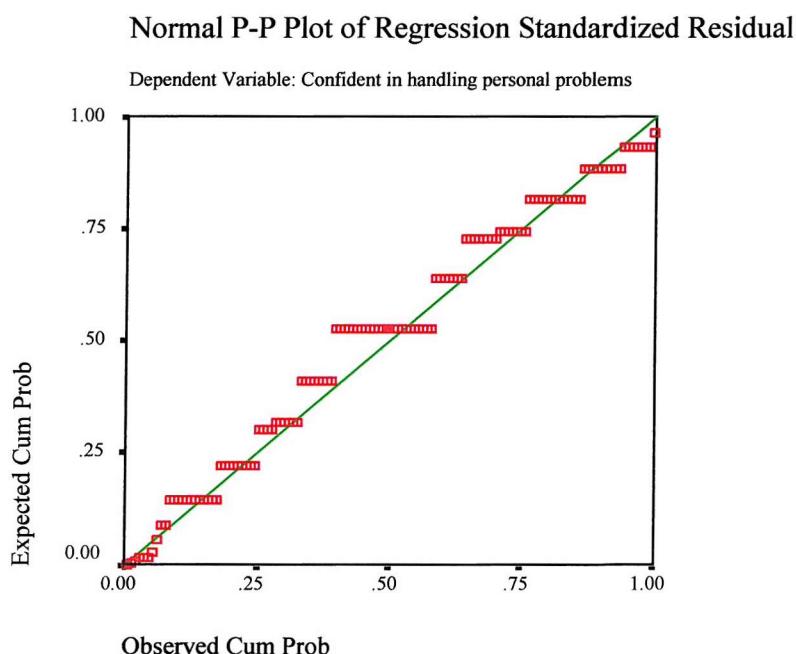


Figure 4.6 shows the relationship between staff who are confident in handling personal problems and do not feel nervous or stressed. The probability of this observed relationship is plotted with what would have been expected, the ANOVA is supported by demonstration of the graph.

Summary of the perceived stress scores

(Question 12a to 12n perceived stress scales)

The ranking of the PSS provided the framework for the summary of this section.

- The vast majority of staff found themselves *thinking about things that they had to accomplish* with male staff scoring this more highly than female. Differences were found between staff position with academic staff perceiving this more of an issue than other groups.
- Overall, male staff perceived feeling *angered by things that were outside of their control* more than female staff. Although a small proportion of males never perceived being angered, this did not apply to female staff. Perceptions across the staff positions varied with female academic staff scoring higher than any other group.
- *Feeling nervous and stressed* resulted in a balanced response overall, although gender and position differences showed some diversity with females (particularly academic) perceiving this item more highly than males.
- Perceptions about not being able to *cope with things that had to be done* received a balanced response. Academic staff scored this more highly than other staff positions with just under half reporting that they could not cope. No gender differences were observed. Proportionally less than a quarter of administration staff felt that they could not cope with demands.
- Being *unable to control important things in life* was an issue for just over half of the staff being problematic for slightly more than a quarter. Academic staff perceived lack of control more than any other staff position with males more so than females.
- Perceptions of staff towards *being upset unexpectedly* revealed that just under a quarter were affected, with males more so than females. Staff positions show variations although male academics perceive being upset more than any other position.
- Generally, slightly more female staff perceived *difficulties piling up so high that they could not overcome them* than males. Academic staff, particularly male, reported these difficulties more frequently than any other staff position.

- The majority of staff perceived that *things were going their way* at least *sometimes*. Male staff perceptions were more positive than female although some large difference were observed across the different staff positions.
- Staff perceptions of *being able to control the way they spend their time* revealed some clear gender differences, with female staff twice as likely as males to perceive lack of time control raising the issue of spill over stress.
- Over half the staff *dealt with irritating life hassles* particularly female staff. This perception was most pronounced between female and male academic staff and brings into question the home/ work divide.
- None of the staff perceived that they were *never* on top of things. Commonly, female staff perceived that they were less likely to be on top of things with 1:8 *almost never* on top of things compared to 1:20 males. Differences across staff positions varied greatly.
- The majority of staff perceived that they were *effectively coping with important changes occurring in their lives*. Gender and position differences were small demonstrating a consistency between and within groups.
- Taken as a whole, staff perceived that they were *able to control irritations in their life* with male staff perceptions being higher than female staff. Although a small minority of male technical staff perceived no control.
- Feeling *confident in ability to handle personal problems* was the lowest scoring PSS. Most staff felt confident in their ability with academic staff observed as the most confident staff position. Nevertheless, a small minority of staff almost never felt confident.
- The homogeneity of the PSS was proven using two different techniques the Cronbach's alpha and the split half technique demonstrating internal consistency and reliability of the data in this section.

Overall, clear gender differences emerged throughout the PSS in which female staff reported higher levels of perceived stress than males. ANOVA revealed that these differences were not statistically significant. Nevertheless, comparing the gender specific PSS scores within the sample a statistically significant 'homogeneity of variance' was demonstrated suggesting that gender does affect perceptions of stress scores in university staff.

CORRELATIONAL AND BIVARIATE ANALYSIS OF WORK STRESS AND PERCEIVED STRESS

Each of the aspects relating to work stressors in Question 11 were analysed with each of the perceived stress variables in Question 12 for significance of correlation.

For example, workload, decision-making, communication, resources, relationships and support from colleagues in Question 11 were examined with perceived stress around demand, uncertainty, change and coping. Thus, work stress and the wider aspects of perceived stress were analysed. The results show 30 significant 2 tailed Bivariate correlations $p = 0.05$ to <0.01) all of which were negative correlations (see Tables 4.22a to c below).

Ranked work stressors 1 to 6 with PSS correlations

Table 4.22a Ranked work stressors 1 to 6 with Perceived Stress Correlations

Rank	Ranked Work stressors (n varies see below)	PSS item (n = 125)	Spearman's rho Correlation r_s with Coefficient of determination r^2	Significance level (2 tailed)
1	11.a. The workload (n = 78)		No significant correlations	
2	11.g. The way decisions are made (n = 83)	12.n. <i>Difficulties piling up</i>	$r_s = -.238$ $r^2 = 5.7\%$	$p = 0.05$
3	11.m. The general level of communication (n = 67)	12.a. <i>Unexpectedly upset</i> 12.b. <i>Unable to control important things in life</i> 12.i. <i>Able to control irritations</i> 12.l. <i>Thinking about things that have to be accomplished</i>	$r_s = -.418$ $r^2 = 17.4\%$ $r_s = -.337$ $r^2 = 11.3\%$ $r_s = -.335$ $r^2 = 11.1\%$ $r_s = -.302$ $r^2 = 9.1\%$	$p = 0.01$ $p = 0.01$ $p = 0.01$ $p = 0.05$
4	11.f. Lack of resources (n = 63)	12.n. <i>Difficulties piling up</i> 12.i. <i>Able to control irritations</i> 12.b. <i>Unable to control important things in life</i> 12.a. <i>Unexpectedly upset</i>	$r_s = -.412$ $r^2 = 16.9\%$ $r_s = -.408$ $r^2 = 16.0\%$ $r_s = -.270$ $r^2 = 7.3\%$ $r_s = -.251$ $r^2 = 6.3\%$	$p = 0.01$ $p = 0.01$ $p = 0.05$ $p = 0.05$
5	11.d. The continual demand to change (n = 61)	12.n. <i>Difficulties piling up</i>	$r_s = -.265$ $r^2 = 7.0\%$	$p = 0.05$
6	11.c. Lack of clarity of our aims and objectives (n = 57)	12.a. <i>Unexpectedly upset</i> 12.b. <i>Unable to control important things in life</i> 12.c. <i>Feeling nervous and stressed</i> 12.l. <i>Thinking about things that have to be accomplished</i> 12.n. <i>Difficulties piling up</i>	$r_s = -.391$ $r^2 = 15.3\%$ $r_s = -.333$ $r^2 = 11.1\%$ $r_s = -.282$ $r^2 = 7.9\%$ $r_s = -.309$ $r^2 = 9.5\%$ $r_s = -.293$ $r^2 = 8.6\%$	$p = 0.01$ $p = 0.05$ $p = 0.05$ $p = 0.05$ $p = 0.05$

All percentages rounded to one decimal place

Table 4.22a above shows the top six ranked work stressors and their co-variance with PSS items. The coefficient of determination provides an indication of how far one variable is accounted for by the other:

- The *workload* had no statistically significant correlations
- The *way decisions are made* and the staffs perceptions that *difficulties were piling up so that they could not overcome them* shows a weak negative relationship with 5.7% of the variance in one being due to the other ($p = 0.05$).
- The *general level of communication* had four negative correlation co-variables. Feeling *unexpectedly upset* 17.4%, *unable to control important things in life* 11.3% but being *able to control irritations in life* 11.1% ($p = 0.01$). This revealed a positive PSS item suggesting that as a negative correlation, poor levels of communication have co-variance with controlling irritations. *Thinking about things that have to be accomplished* 9.1% ($p = 0.05$) was the final negative correlation with this work stressor.
- *Lack of resources* had four negative correlations; the strongest was *difficulties piling up* 16.9% and co-variance with a positive PSS item *being able to control irritations* 16.0% ($p = 0.01$). Two weaker co-variances are feelings of *being unable to control important things in life* 7.3% and *being unexpectedly upset* 6.3% ($p = 0.05$).
- *The continual demand to change* and the feeling that *difficulties are piling up* 7.0% were negatively correlated ($p = 0.05$).
- *Lack of clarity in our aims and objectives* had five negative correlations. *Feeling unexpectedly upset* 15.3% ($p = 0.01$), *feeling unable to control important things in life* 11.1%, *thinking about things that have to be accomplished* 9.5%, that *difficulties are piling up* 8.6%, *feeling nervous and stressed* 7.9% ($p = 0.05$).

Ranked work stressors 7 to 11 with PSS correlations

Table 4.22b Ranked work stressors 7 to 11 with Perceived Stress Correlations

Rank	Ranked Work stressors (n varies see below)	PSS item (n = 125)	Spearman's rho Correlation r_s with Coefficient of determination r^2	Significance level (2 tailed)
7	11.k. Lack of support from managers (n = 53)		No significant correlations	
8	11.j. Keeping up to date (n = 54)	12.k. Angered by things outside of your control	$r_s = -.407$ $r^2 = 16.6\%$	$p = 0.01$
9	11.n. Communication needed to do my job (n = 52)	12.a. Unexpectedly upset 12.l. Thinking about things that have to be accomplished	$r_s = -.372$ $r^2 = 13.8\%$ $r_s = -.335$ $r^2 = 11.2\%$	$p = 0.05$ $p = 0.05$
10	11.e. My work surroundings (n = 52)	12.n. Difficulties piling up 12.b. Unable to control important things in life 12.c. Feeling nervous and stressed 12.f. Confident in handling problems 12.e. Effectively coping with important changes 12.i. Able to control irritations 12.a. Unexpectedly upset 12.h. Could not cope with demands	$r_s = -.448$ $r^2 = 20.1\%$ $r_s = -.407$ $r^2 = 16.5\%$ $r_s = -.373$ $r^2 = 13.9\%$ $r_s = -.371$ $r^2 = 13.7\%$ $r_s = -.369$ $r^2 = 13.6\%$ $r_s = -.337$ $r^2 = 11.3\%$ $r_s = -.295$ $r^2 = 8.7\%$ $r_s = -.293$ $r^2 = 8.6\%$	$p = 0.01$ $p = 0.01$ $p = 0.01$ $p = 0.01$ $p = 0.05$ $p = 0.05$ $p = 0.05$
11	11. o. Other self reported causes of work related stress (n = 42)	Correlation not reported due to heterogeneous elements of 'other stressors'		

All percentages rounded to one decimal place

Table 4.22b shows the seventh to eleventh ranked work stressors and their covariance with PSS items.

- The *lack of support from managers* work stressor had no statistically significant correlations.
- *Keeping up to date* had a negative but modest correlation with being *angered by things outside of your control* 16.6% ($p = 0.01$).
- *Communication needed to do my job* showed two negative correlations, *being unexpectedly upset* 13.8% and *thinking about things that have to be accomplished* 11.2% ($p = 0.05$).
- *My work surroundings (building and equipment)* revealed eight negative correlations *difficulties are piling up* 20.1%, *feelings of being unable to control important things in life* 16.5%, *feeling nervous and stressed* 13.9% ($p = 0.01$). Three positive PSS items *confident in handling problems* 13.7%, *effectively coping with important changes* 13.6% ($p = 0.01$) and being *able to control irritations* 11.3% ($p = 0.05$). *Could not cope with demands* 8.6% and being *unexpectedly upset* 8.7% completed this item.
- *Other self reported work stressors* were not a homogenous item therefore correlation was not performed.

Ranked work stressors 12 to 15 with PSS correlations

Table 4.22c Ranked work stressors 12 to 15 with Perceived Stress Correlations

Rank	Ranked Work stressors (n varies see below)	PSS item (n = 125)	Spearman's rho Correlation r_s with Coefficient of determination r^2	Significance level (2 tailed)
12	11.b. The duplication of roles (n = 42)		No significant correlations	
13	11.h. Staff relationships (n = 45)	12.l. Thinking about things that have to be accomplished	$r_s = -.318$ $r^2 = 10.1\%$	p = 0.05
14	11.l. Lack of support from peers (n = 28)	12.n. Difficulties piling up	$r_s = -.427$ $r^2 = 18.2\%$	p = 0.05
15	11.i. Staff student relationships (n = 28)	12.c. Feeling nervous and stressed 12.n. Difficulties piling up	$r_s = -.435$ $r^2 = 18.9\%$ $r_s = -.412$ $r^2 = 16.9\%$	p = 0.05 p = 0.01

All percentages rounded to one decimal place

Table 4.22c shows the twelfth to fifteenth ranked work stressors and their co-variance with PSS items.

- *The duplication of roles* showed no significant correlation with any PSS item.
- *Staff relationships* have a negative correlation with *thinking about things that have to be accomplished* 10.1% (p = 0.05).
- *Lack of support from peers* shows a negative correlation with *difficulties piling up* 18.2% (p = 0.05).
- *Staff student relationships* revealed negative correlations with *difficulties piling up* 16.9% (p = 0.01) and *feeling nervous and stressed* 18.9% (p = 0.05).

Correlation significance

Correlation significance at the 95% confidence interval identified 17 co-variables.

Moreover, at the 99%, confidence interval 13 co-variables were identified using workplace stress and perceived stress scores (PSS) all of which had negative relationships. Each relationship needed to be interpreted as discussed earlier, examining the level of significance with the Spearman's rho in tandem. The 17 weaker correlations p = 0.05 had r values between -.238 (5.7%) and -.435 (18.4%)

whilst the stronger correlations $p = 0.01$ demonstrated r values between -.335 (11.1%) and -.448 (20.1%) placing them as modest range correlations (Bryman and Cramer, 1990).

Table 4.23 Questions 11 and 12 Ranked work stressors and perceived stress variable correlation table Year 2000

PERCEIVED STRESS															
R	Q12	a	b	c	d	e	f	g	h	i	j	k	l	m	n
Q11a	1														
11g	2													$^{*}_{-}$.238	
11m	3	** .418	** .337						** .335			$^{*}_{-}$.302			
11f	4	$^{*}_{-}$.251	$^{*}_{-}$.270						** .408					$^{**}_{-}$.412	
11d	5													$^{*}_{-}$.265	
11c	6	** .391	$^{*}_{-}$.333	$^{*}_{-}$.282							$^{*}_{-}$.309			$^{*}_{-}$.293	
11k	7														
11j	8									** .407					
11n	9	$^{*}_{-}$.372									$^{*}_{-}$.335				
11e	10	$^{*}_{-}$.295	** .407	** .373		** .369	** .371		$^{*}_{-}$.293	$^{*}_{-}$.337				$^{**}_{-}$.448	
11o	11													.	
11b	12														
11h	13										$^{*}_{-}$.318				
11l	14													$^{*}_{-}$.427	
11i	15			$^{*}_{-}$.435										$^{**}_{-}$.412	
Occurrences	5	4	3	0	1	1	0	1	3	0	1	4	1	7	

** $p = 0.01$ level (2 tailed), * $p = 0.05$ level (2 tailed).

Table 4.23 shows the matrix of perceived stress variables together with those that had no significant correlation, these were items Ranked 1 (11a), 7 (11k) 11(11o) and 12 (11b).

Difficulties in job performance and perceived stress score correlation analysis

Staff feelings measured by perceived stressor scores were correlated with question

10a. Are there any difficulties in performing your job because the job differs from the job description? This resulted in ten significant Bivariate correlations, nine of which were positive correlations.

Table 4.24 Difficulties in job performance because the job differs from the job description and PSS correlations

Job performance difficulties (Q. 10a.) and PSS correlations (Q. 12) (n = 125)	Spearman's rho Correlation r_s with Coefficient of determination r^2	Significance level (2 tailed)
12.a. <i>Unexpectedly upset</i>	$r_s = .264$ $r^2 = 7.0\%$	p = 0.01
12.b. <i>Unable to control important things in life</i>	$r_s = .287$ $r^2 = 8.2\%$	p = 0.01
12.c. <i>Feeling nervous and stressed</i>	$r_s = .294$ $r^2 = 8.6\%$	p = 0.01
12.d. <i>Dealt with irritating life hassles</i> (Variable not significant in other correlations)	$r_s = -.203$ $r^2 = 4.1\%$	p = 0.05
12.g. <i>Things were going your way</i>	$r_s = .273$ $r^2 = 7.4\%$	p = 0.01
12.h. <i>Could not cope with demands</i>	$r_s = .330$ $r^2 = 10.9\%$	p = 0.01
12.i. <i>Able to control irritations</i>	$r_s = .192$ $r^2 = 3.7\%$	p = 0.05
12.j. <i>Feel on top of things</i>	$r_s = .289$ $r^2 = 8.3\%$	p = 0.01
12.k. <i>Angered by things outside of your control</i>	$r_s = .391$ $r^2 = 15.3\%$	p = 0.01
12.n. <i>Difficulties piling up</i>	$r_s = .446$ $r^2 = 19.9\%$	p = 0.01

All percentages rounded to one decimal place

Table 4.24 shows difficulties in performing work because the job differed from the job description and their covariance with items in the PSS.

The following were all positively correlated ($p = 0.01$) and are reported in strength of relationship from the Spearman's rho correlation coefficient of determination starting with the strongest relationships.

- *Difficulties piling up* 19.9%.
- *Feeling angered by things outside of your control* 15.3%.

- *Not coping with demands* 10.9%.
- *Feeling nervous and stressed* 8.6%.
- *Feeling on top of things* 8.3%
- *Things were going your way* 7.4%
- *Feeling unable to control important things in life* 8.2%
- *Being unexpectedly upset* 7.0%.

Being *able to control irritations in life* 3.7% was positively correlated with difficulties in job performance ($p = 0.05$).

Dealing with irritating life hassles 4.1% had no other significant correlations but was negatively correlated with difficulties in job performance ($p = 0.05$).

Table 4.25 Question 10a and 12 Difficulties performing job and perceived stress variable correlation table Year 2000

PERCEIVED STRESS														
Q.12	a	b	c	d	e	f	g	h	i	J	k	l	m	n
Q.10 a	**	**	**	*			**	**	*	**	**			**
	.264	.287	.294	-.203			.273	.330	.192	.289	.391			.446

** $p = 0.01$ level (2 tailed). * $p = 0.05$ level (2 tailed).

Table 4.25 shows the perceived stress variables correlation matrix for questions 10a and 12. In question 12, all correlations except 'd' have a positive relationship. Items **e, f, l** and **m**, show no significant relationships with question 10a.

Finally, in this section the PSS was also correlated with how much staff *enjoyed their work* revealing one significant positive correlation *being able to control the way I spend my time* $r_s = .241$, $r^2 = 5.8\%$ ($p = 0.007$).

Summary of perceived stress and work stress correlations (Questions 10a, 11 and 12)

- Ranked work and perceived stress variables resulted in 30 negative correlations ($p = <0.05$).

- Three ranked work and one perceived stress variable had no significant correlations.
- Difficulties in job performance and perceived stress revealed nine positive correlations ($p = <0.05$). One negative correlation ($p = 0.05$) and three PSS items with no significant correlations.
- Work enjoyment and having control over the way staff spend their time was positively correlated ($p = 0.007$).

SUGGESTED STRESS COPING FACTORS

(Question 13a to 13 c, all aspects of this question were asked in both surveys 1996 and 2000). This question was entirely open-ended requiring written comments from staff.

These findings contributed to the fulfilment of the following objective:

Objective (ii). This thesis will explore suggestions made by staff that enables them to manage stress at individual, departmental and university levels.

Tables 4. 26a to 4.26c illustrate the abstracted qualitative comments made by staff.

Again, (R) denotes the respondent code number and comments made by staff are in *italics*.

Coping at an individual level

Question 13a. What do you think could be done to help people cope with stress at an individual level?

In 1996, four categories emerged when 29 staff (36%) suggested how individuals could cope more effectively with stress. These were 'relaxation and exercise', 'communication', 'time priorities ' and 'workload'.

In 2000, seventy-nine (63%) staff contributed to the same four categories but also added the category of 'management'. These categories are reported in this section and were not mutually exclusive.

Suggested ways of managing individual stress

Table 4.26a Suggested ways of managing stress at an individual level 2000

Individual Activity	Examples of written comments by staff
Relaxation and exercise	<p>Examples for relaxation and exercise methods were given, these ranged from breathing exercises to meditation, <i>Yoga to Tai Chi, walking in fresh air and exercise to more sex</i> (R6 and 15, 21, 59, 64, 74, 119).</p> <p><i>Free use of the university gym for exercise and relaxation</i> (R28 and 54)</p> <p><i>Learn to relax, re-evaluate feelings continuously. Know when to stop work</i> (R25 and 39, 99, 120).</p> <p><i>Time out, activities outside of work – a hobby to help you relax</i> (R34 and 42, 48, 63, 64).</p>
Communication	<p><i>Clarify what is expected of the job – communication makes all the difference</i> (R19).</p> <p><i>Assertiveness, remind staff that NO isn't a dirty word and can help reduce most levels of stress easily when warranted.</i> (R113).</p> <p><i>Peer support and good communication should help to keep the job in perspective</i> (R 49 and 98, 106, 108).</p> <p><i>Having somewhere available to relax so that a personal conversation with colleagues is possible</i> (R5 and 62).</p>
Time priorities and goals	<p><i>Manage your time effectively using time management skills</i> (R2 and 47, 56, 67).</p> <p><i>Keep a timetable and plan ahead</i> (R22 and 30, 123, 124).</p> <p><i>Set priority tasks and share conflicts with the line manager</i> (R4 and 9, 23, 30).</p> <p><i>More personal time and space reduces stress</i> (R79).</p> <p><i>Don't work through the lunch hour like I stupidly do each day</i> (R81 and 25, 79).</p>
Workload	<p><i>Know when to stop</i> (R16).</p> <p><i>Not expecting someone on a fractional appointment to cover all aspects of the job</i> (R38).</p> <p><i>Use a staff peer support system</i> (R13 and 76, 82).</p> <p><i>Receive sensible duties. Realise that when you have a heavy workload all you can do is your best, work long hours but appreciate all will not be done on time</i> (R29).</p> <p><i>Limit your workload and clarify responsibilities</i> (R10 and 19).</p> <p><i>Pay me for all the hours I work</i> (R83).</p> <p><i>Have a lighter workload</i> (R52 and 57, 88).</p> <p><i>Give me some autonomy to schedule my work</i> (R100).</p> <p><i>I am responsible for my own activities and reactions and so should others be for theirs</i> (R109 and 61).</p>
Management	<p><i>Stop pointing the finger of blame at individuals when something goes wrong – it's a team effort and we all need to survive</i> (R37).</p> <p><i>Share a little kindness, understanding and help, we could all benefit from this.</i> (R27 and 46, 96).</p> <p><i>Support professional intervention as the norm rather than an exception when individuals require support and not simply abandoning them</i> (R58).</p> <p><i>Managers should be more aware of people's workloads when they are given an extra work due to other staff sickness or problems</i> (R3 and 40).</p> <p><i>Be more aware of peoples' workload when delegating</i> (R3).</p> <p><i>Encourage people to take a break during the day</i> (R39).</p> <p><i>More interaction with line management so that individuals have someone to seek advice from</i> (R29 and 40).</p> <p><i>Some managers seem to manage by making sure they appear not to cope</i> (R50).</p>

The five categories from Table 4.26a above are described further below.

Relaxation and exercise

Learning how to relax, to evaluate feelings and knowing when to stop work were felt to be skills that some staff needed to develop. A variety of relaxation and exercise methods were suggested, examples ranged from gaining mental rest to physically active exercise. Some of the exercise could be carried out whilst at work for example simple breathing exercises that may be used to instil a sense of calm. More physically active measures from moving around at work to walking in fresh air were recommended. The final aspect of relaxation consisted of having time out activities within work and out of work interests for example a hobby to aid relaxation.

Communication

The importance for staff to clarify what is expected of their job or component activity rather than muddling through were highlighted as issues for good communication. Suggestions were made around the importance of communication with peers for support to keep work into perspective. Having somewhere available for staff to rest, relax and socially interact at work was considered important.

Time priorities and goals

Lack of time was perceived by some staff as something that they could learn to manage, or that other staff might manage more effectively using time management skills. Examples focused around planning and having a firm control on your diary which may be useful strategies for some staff but unrealistic for others who have little autonomy. Setting priority task lists and not responding immediately to demands, rushing from one task to the next and sharing priority conflicts with the line manager were all cited as practical examples to reduce stress. Having more personal time and space at work were also suggested as a means for reducing individual stress and particularly having breaks from work whilst at work

Workload

A range of individual coping strategies were suggested to manage the workload. The importance of being realistic with demands, for example, knowing when to stop and realising that all you can do is your best may enable some staff to place workload into a less stressful perspective. However, one part-time academic member of staff suggested that management should not expect someone on a fractional appointment to

cover all aspects of the job (R38). So even when working hard to do your best demands can seem overwhelming. It seems that staff with a high degree of autonomy perceive less stress than those who have work delegated to them. These less autonomous staff may perceive that their workload priorities are difficult to manage because everything seems to be urgent for those delegating work.

Management

Two types of managers seem to emerge from the written comments, those who perhaps unwittingly enhance the perception of stress and those who enable stress to be reduced. Where managers perpetuate a blame culture by isolating individuals this was seen to be unfair especially when a team of staff were involved. The idea that some managers could share a little kindness, understanding and help individuals was stated. This suggests that some managers need to be more aware of the way they are perceived by their subordinates and require to be more aware of staff's workload when delegating. On the other hand gaining advice from some line managers may assist in supporting staff and reducing their perceptions of stress. Finally, the issues that managers also need support at work were raised, even for those managers who cope by appearing not to cope which staff found unsettling.

Coping in a department or faculty

Question 13b. What do you think could be done to help people cope with stress at a department or faculty level?

Three categories emerged from the 1996 data whereby staff felt that departments or faculties could help people cope more effectively with stress. These were 'communication', 'workload' and 'social aspects'. One further category was added to these from the 2000 survey, 'management'.

Suggested ways of managing stress in a department or faculty

Table 4.26b Suggested ways of managing stress at a department or faculty level 2000

Department or Faculty Activity	Examples of written comments by staff
Communication	<p><i>People tend to assume that members of staff can cope without checking or asking them (R3 and 56).</i></p> <p><i>Departmental openness and veracity with encouragement and positive feedback would reduce stress (R52 and 83, 108).</i></p> <p><i>Listening when work problems arise in the department to ensure a greater clarity of information (R1 and 45, 79, 121, 123).</i></p> <p><i>More understanding of individual's jobs and increased rapport with a shared understanding (R19 and 22, 59, 74, 92).</i></p> <p><i>Work stress could be dealt with by perhaps occasional meetings for people to talk about their individual anxieties, annoyances etc (R47 and 73).</i></p> <p><i>More interaction so that people can help those who are under stress (R41 and 32, 100, 113).</i></p>
Workload	<p><i>Delegation of too many roles to colleagues [my personal problem in the department] (R18).</i></p> <p><i>Delegation – but to whom? Everyone is in the same boat with too much to do (R102 and 51).</i></p> <p><i>Reduce the administration burdens and workload and better structure the timetable (R2 and 10, 11, 24, 25, 67).</i></p> <p><i>Departments could be more proactive and less reactive when requesting reports etc (R7 and 8, 26, 81).</i></p> <p><i>Matching the job to an individual's ability to handle stress (R76).</i></p> <p><i>Allowing more flexible working hours especially when people have problems out of work (R 90).</i></p> <p><i>Improved support and maintenance of computer systems and technology would reduce time wastage hugely across a department and even more so across a faculty (R116).</i></p> <p><i>The availability of food and drink around the campus would help to support staff that currently has poor access to catering (R37).</i></p>
Social aspects of work	<p><i>People have said that there is little time to socialise with colleagues and have fun; there was a time when we seemed to have time (R34 and 64).</i></p> <p><i>More business time set aside for socialising – such as through Yoga, Tai Chi classes new age therapies etc, even if this was just an annual event (R77 and 104).</i></p>
Management	<p><i>Well-conducted appraisals and regular monitoring (R13 and 94, 100).</i></p> <p><i>Use a mentoring system or have specific times for sharing and reflecting on work (R48).</i></p> <p><i>Clearer management structures to end uncertainty and limbo with job responsibilities with the appropriate amount of time to deal satisfactorily with these (R5 and 39, 46, 88, 96, 119).</i></p> <p><i>Better planning with specific goals and objectives and a review of staff roles in line with student numbers (R4 and 75, 107, 111, 125).</i></p> <p><i>Managers need to manage ensuring that individuals have sensible timetables and remission for other work (R20 and 23, 30, 38).</i></p> <p><i>Support in terms of professional intervention and the need for a clearer business plan that is responsive to hasten decisions (R58).</i></p> <p><i>End the resource freeze both technical and human and reduce bureaucracy (R66 and 61, 10).</i></p> <p><i>Greater recognition for teaching (R57).</i></p> <p><i>Reassessment of some jobs, are some people doing too much? (R46).</i></p> <p><i>Match job to the individuals' ability to handle stress (R90).</i></p> <p><i>Adequate training with regular assessment of job skills (R2 and 11).</i></p> <p><i>Stress management workshops (R64).</i></p> <p><i>More support and encouragement from the top with managers taking problems seriously (R 22 and 63, 86, 110, 120).</i></p> <p><i>Better departmental and faculty planning with specific goals and objectives and a review of staff roles in line with growing student numbers (R46 and 75, 107, 111, 125).</i></p>

The four categories from Table 4.26b above are described further below.

Communication

Staff suggested that at the department or faculty level staff tended to assume that colleagues can cope without checking or asking them about work, especially before delegating extra tasks or responsibilities. Developing a departmental culture where openness and veracity are encouraged and positive feedback given were thought to enhance staff interaction and thereby enable a more supportive working environment. Some staff seem not to listen when problems, anxieties and annoyances arise at work. If they listened, staff perceived that a better understanding of the work issues would be gained.

Workload

At a department or faculty level a range of workload and resource issues were suggested by staff to help colleagues cope with stress. One manager admitted that they delegated too many roles to colleagues in their department, whilst others felt that delegation was difficult because their staff were in ‘the same boat’ and often too busy. Reducing the administration burdens with better training were recommended as means to reduce departmental stress. Departments could be more proactive and less reactive when requesting reports from staff for ‘the centre’ [Central Services including the Directorate].

Suggested ways of improving coping mechanisms included tailoring work to an individual’s ability to handle stress and allowing more flexible working hours to accommodate out of work problems. Improved support and maintenance of ICT and computer systems may reduce time wastage and the stress of falling behind with work. Similarly, having easier access to food and drink around the campus were thought to improve work and reduce stress.

Social aspects of work

Careful design of the work environment with places to relax was thought to reduce departmental stress. Staff suggested that there appears to be little time to socialise and relax with colleagues or indeed have fun at work, therefore raising the issue of how departments manage staffs’ time.

Management

Staff recommended that having role clarity and regular monitoring by managers was a useful way to help departments cope with stressed employees. Uncertainty and the feeling of being in limbo were thought to increase stress. Clearer management structures and job responsibilities to deal satisfactorily with work were considered important, especially around teaching and mentoring of new staff. These issues were reiterated around the need to have sensible timetables and remission for other work.

The requirement to have better departmental and faculty planning with specific goals, objectives and a review of staff roles in line with growing student numbers were also raised. Having clearer and more responsive department/faculty business plans to hasten the decision making process and reduce bureaucracy would help managers to cope. Some staff argued that more support and encouragement from 'the top' might ensure that some managers take problems more seriously and thereby enable staff to cope in departments more effectively.

Coping at the university level

Question 13c. What do you think could be done to help people cope with stress by the University?

Two categories emerged from the 1996 data whereby staff felt that the University as an organisation could help people cope more effectively with stress. These were 'management communication' and 'stress management'. One further category was added from the 2000 survey a 'reduction of bureaucracy and workload'.

Suggested ways of managing stress at the University level

Table 4.26c Suggested ways of managing stress at the University level 2000

University Activity	Examples of written comments by staff
Management communication	<p><i>Clear unambiguous direction from senior management to remove or at least buffer the institution from political stress endemic in HEIs (R10).</i></p> <p><i>Better communication from the centre so that staff understood the big organisational objectives (R10 and 20, 42, 86, 88, 107, 121, 125).</i></p> <p><i>Central management could provide more autonomy to the departments, particularly 'financial autonomy', thereby reducing stress (R16 and 52, 83).</i></p> <p><i>Extra finance to enable departments to act more quickly to reduce/reconfigure the workload and prevent a build up of bad feelings and stress between staff members (R1 and 13).</i></p> <p><i>Train managers to manage more effectively (R25 and 38, 59, 99, 100, 113, 115).</i></p> <p><i>Job security together with a sense of belonging, 'esprit de corps (R26 and 63)</i></p> <p><i>Feeling that people cares and that measures are in place to deal effectively with work related stress (R41 and 68). Reversing the current trend of removing staff common rooms due to space charging (R94 and 98).</i></p> <p><i>Develop a good staff development programme that includes time management (R94).</i></p> <p><i>The university appears to understand the pressures of combining work and family life very well but clearer guidance/policies require developing (R64 and 79).</i></p>
Reduction in bureaucracy and workload	<p><i>Reduce the bureaucratic paperwork and administration burden on academics (R24 and 29, 34, 39, 58, 66, 67).</i></p> <p><i>The academic calendar is so full that it is nearly impossible to take leave (R19).</i></p> <p><i>Increase resources so that staff have more realistic workloads and improve the staff/student ratio (R66 and 69, 81,102, 105, 120).</i></p> <p><i>If the University were more person centred, it would recognise our importance and provide a greater flexibility for working from home, more flexible hours and other 'rewards' (R8 and 21, 22, 28, 32, 124).</i></p> <p><i>Investing in a more efficient IT system, which is less likely to fail, would reduce workload and stress and improve the working environment (R47 and 45, 116).</i></p>
Stress management	<p><i>Stress management for all staff through a contact point, for a chat, or a listening ear not merely for those who feel stressed already, prevention being better than cure (R6 and 7,15, 30, 47,71, 74, 92).</i></p> <p><i>Stress workshops or alternative health promotion such as massage or yoga (R34 and 37, 46, 48, 54, 77, 104).</i></p> <p><i>Staff only exercise facilities for lunchtime activity (R5 and 6).</i></p> <p><i>Expand the part-time Occupational Health Department, which seems to me to be inadequate for a university the size of ours (R31).</i></p>

The three categories from Table 4.26c above are described further below.

Management Communication

The written comments by staff suggested that the issue of political stress could be avoided if clear unambiguous direction from senior management was provided. With better communication from the centre of the university staff may understand the major organisational objectives. A few staff suggested that central management could provide more autonomy to the departments, particularly 'financial autonomy', thereby reducing stress especially when financial autonomy might enable departments to act

more quickly to reduce/reconfigure the workload and therefore prevent a build up of bad feelings and stress between staff.

There was an expressed need to train managers to manage more effectively and try to implement changes gradually. Job security together with a sense of belonging, ‘esprit de corps’ may support the feeling that the organisation cares and that measures are in place to deal effectively with work related stress. The current trend of removing staff common rooms to expand teaching facilities seems to be due to two factors, the need for more teaching space and ‘space-charging,’ whereby departments pay into a central fund ground rent calculated on the square footage of their buildings. Common rooms were not viewed as areas that generated income, even though they provide a haven for the discussion of operational issues and innovative business and therefore this trend to remove them should be reversed. Having good staff development programmes were also thought to be beneficial for most staff.

One respondent felt that the University understood the pressures of combining work and family life very well but that this needed to be reflected in work policies resulting in clearer guidance to staff. Another staff member suggested that whilst the university seems to recognise the importance of staff performance and well being this seems to be in intermittent bursts and people need to feel valued continually.

Reduction of bureaucracy /workload

A number of staff suggested that the university could reduce the bureaucratic paperwork and administration burden on academics. This was thought to fill the academic calendar making it almost impossible to take leave. One member of staff poignantly summed up the workload issue:

The university of [Eddington] demands extra labour/value from every staff member. Sometimes I look up at the folks who beat the treadmill machines at the City Gym (the second floor of a glass fronted gymnasium). My colleagues may be among them. They vainly suppose that they can combat the effects of one treadmill by using another (R83).

A plea was made to increase resources so that staff had more realistic workloads, for example to improve the staff, student ratio. An alternative preferred was to have a

more person centred university with a greater flexibility of hours, and scope to work from home and other 'rewards'. ICT was felt to increase the workload by some staff who suggested the university invest in a more efficient IT system which was less likely to fail. Therefore, staff suggested by improving the working environment through a reduction in bureaucracy and workload, stress would reduce.

Stress management

Staff suggested that to prevent individuals feeling stressed provision for organisational stress prevention and management could be implemented for all staff. A central contact point was mentioned, for a chat, or a listening ear. Stress workshops or alternative health promotion activities were also suggested. These ranged from gentle exercise provision to staff only exercise facilities for lunchtime activity as an organisational mechanism for reducing stress. The role in the university of the part-time Occupational Health Department (one part-time nurse) was felt to be inadequate, a request was made for an increase in the number of sessions worked. The Occupational Health department may then be in a position to provide a central point for stress prevention and the support of staff.

Summary of suggested coping factors at individual, departmental and university levels (Questions 13a, b and c)

Individual social interventions

- Having time and space to relax at work and outside of work (13a & b)
- Increasing physical activity to aid relaxation (13a)
- Refreshments close to the workplace (13b)
- Stress management for individuals or groups of staff (13a & c)

Organisational interventions - management and work communication

- Improving communication at work with more openness (13a & c)
- Greater awareness and understanding of individual staff needs by some managers (13a)
- Reducing workload demand and improving time priorities by enabling staff to have more control over work (13 a)
- Improved work-life balance (13c)

- Reduction in burdensome administration, particularly for academic staff (13a & c)
- Flexible working especially when staff have difficulties (13b)
- Clearer role structure and less role ambiguity (13c)
- Improved staff training (13b & c)
- Improved departmental planning (13b)
- Decentralise budgets to give departments more autonomy to re-configure the workload (13c)
- An expanded proactive Occupational Health service to help prevent stress in the workplace (13c).

Each of these suggested coping factors has the potential, according to the staff, to reduce stress and will be further discussed in the next chapter.

It is now appropriate to examine the lifestyle aspects of staff as determined in the questionnaire.

LIFESTYLE FACTORS TO REDUCE STRESS AND IMPROVE HEALTH

PHYSICAL ACTIVITY

(Questions 14, 15 and 16 were asked in both 1996 and 2000 surveys).

These findings contributed to the fulfilment of the following objective:

Objective (xi). This thesis will examine staff beliefs and their perceived behaviour towards physical activity. It will explore any work barriers that prevent staff from achieving their desired level of physical activity.

The importance of physical activity

Question 14. How important is physical activity to you?

Table 4.27a Importance of Physical Activity Years 1996 and 2000

Importance of Physical Activity	Year 1996 n = 80		Year 2000 n = 125	
	Frequency/ Valid Percent	Cumulative Percent	Frequency/ Valid Percent	Cumulative Percent
Very important	22 27.5%	27.5	33 26.4%	26.4
Important	41 51.25%	78.75	73 58.4%	84.8
Not very important	16 20.0%	98.75	18 14.4	99.2
Not at all important	1 1.25%	100.0	1 .8%	100.0

(See Physical Activity Table 1 Appendix 14 for Staff position and Gender cross-tabulation).

Table 4.27a shows the importance staff placed in physical activity for 1996 and 2000 respectively. In 2000, 6% more staff felt that physical activity was *important* or *very important* to them. No comparative analysis is available for 1996.

A strong similarity existed in 2000 between male and female staff in the importance they attached to physical activity. 25% of male and 26% of female staff perceived physical activity as *very important*, 59% and 57% as *important* with 14% and 15 % as *not very important* respectively. Female academic staff were twice as likely to rate physical activity as *not important* to them as did their male academic colleagues, whereas 41% of male technical staff rated physical activity as *not important* this was proportionately the largest group in this category. Only one female administrator felt that physical activity was *not at all important*.

Staffs' behaviour towards physical activity

Question 15. How much exercise or physical activity do you take?

Table 4.27b Physical activity undertaken Years 1996 and 2000

Physical activity taken	Year 1996 n = 80		Year 2000 n = 125	
	Frequency/ Valid Percent	Cumulative Percent	Frequency / Valid Percent	Cumulative Percent
1. Regular exercise	32 41.25%	41.25	47 37.6%	37.6
2. Once a week	18 22.5%	63.75	22 17.6%	55.2
3. Walk to work	18 22.5%	85.75	42 33.6%	88.8
4. Occasional only	11 13.25%	98.75	11 8.8%	97.6
5. Rarely exercise	1 1.25%	100.0	3 2.4%	100

Key

1. = I do regular exercise that increases my heart rate for at least 20 minutes twice a week or more.
2. = I try to exercise at least once a week.
3. = I get my exercise by regular physical activity such as walking to work, cycling, walking the dog etc.
4. = I only take occasional physical activity such as going for a walk.
5. = I really don't do any exercise or physical activity.

Table 4.27b shows the amount of self-reported physical activity undertaken by staff in 1996 and 2000 respectively. Whilst there was a reduction of around 8.5% in the number of staff *regularly* or *once a week* taking exercise, there has been an 11.1% increase in the number that walked to work from 1996 to 2000. [It must also be noted that at the time of the 2000 survey the university gymnasium was closed due to refurbishment]. In the previous question, an extra 6% of staff in 2000 felt that physical activity was *important* or *very important* to them, but only 3% increased their amount of physical activity.

Age and physical activity undertaken

Table 4.27c Comparison of Age and Physical Activity Year 2000

Year 2000 Age	How much PA taken					
	Regular exercise	Once a week	Walk to work	Occasional exercise only	Rarely exercise	Total
18 to 25 & % of age	2 66%		1 33%			3
26 to 40 & % of age	15 37.5%	9 22.5%	11 27.5%	3 7.5%	2 5%	40
41 to 50 & % of age	14 46.6%	3 10%	9 30%	4 13.3%		30
51 to 65 & % of age	16 31.4%	10 19.6%	20 39%	4 7.8%	1 1.9%	51
66 >			1			1
Total	47	22	42	11	3	125

Table 4.27c shows staff age and physical activity undertaken in 2000. The 18 to 25 and 41 to 50 age groups undertake the most regular exercise. Combining the *regular exercise* and *walk to work* percentages in each staff age group shows that those under 25 years achieve 100%, the 41 to 50 age group 70.6%, the 51 to 65 age group 70.4% and 26 to 40 age group 65% activity levels respectively.

Gender and position differences were small in the amount of exercise staff reportedly took (see Physical Activity Table 2 Appendix 14). Male staff 40% reported *regular*

exercise compared to 34% of females, although female staff were more likely to *walk to work, cycle or walk the dog* and take more exercise generally.

The staffs' perception of the importance of physical activity in 2000 and how much activity they reportedly took was positively correlated using Spearman's rho correlation $r_s = .464$. and $r^2 = 21.5\%$ ($p = 0.01$ two tailed).

Levels of physical activity were also correlated with the staffs' total perceived stress scores and showed a weak negative relationship that was not statistically significant.

Suggestions for improving staff levels of physical activity

Question 16. What do you think could be done by the University or local services to help you take more exercise?

Qualitative written comments were received from 37 (46%) of the 1996 respondents.

These findings divide into three main areas:

1. Improve University sports and gym facilities 16%
2. Adoption of a corporate membership scheme with a local leisure complex 6.5%
3. Extend cycling provision and showering facilities across the campus 5%

In the 2000 survey 71 (56%) staff provided written comments on this question.

Whilst 6% of staff wished for improved sport and gym facilities, staff that used the facilities, even on an occasional basis, would have been aware that a major refurbishment programme was underway. Accessibility for staff before during and on completion of their working day with dedicated 'staff only' slots was an issue for 17 (13.5%) staff. Financial considerations were stated by 12 (9.6%) respondents, with this being more of an issue for support /manual staff on lower wages than academic grades. A member of the manual staff also suggested exercise on prescription to occur at work.

Exercise classes in departments were suggested by 8 (6.4%) of staff. Having flexible working hours was suggested by 6 (4.8%) of staff to enable better access to facilities. For a few staff, workload is a barrier to exercise 3 (2.4%). Limitations of time in

work and home lives were stated as a barrier to physical activity, some of which was beyond the University or local providers to rectify 5 (4%). Nevertheless, staff stated that the:

University facilities seem good, but I prefer to exercise closer to my home where I am less likely to meet colleagues!! (R12).

Allow me time for a proper lunch break! A chance to get out of the building for a walk would be beneficial, (R100).

I train every day when I can, but sometimes have to miss weekend activities (running, cycling) because of too much work. (R105)

Encouraging the use of public transport and less reliance on the car buy the extension of safer cycle routes around and within the campus was suggested by 10% of staff. These staff also stated that better lit and secure cycle stowage, showering and changing facilities were required.

Encouraging swimming was suggested by 7 (5.6%) staff. Although the University does not have its own swimming pool, there is one close to the central campus, which some staff use, being more heavily used by students.

Summary of lifestyle issues around physical activity at work

(Questions 14, 15 and 16)

- The majority of staff perceived physical activity to be important.
- A 6% increase in the number of staff who felt physical activity was important was seen from 1996 to 2000 but no significant differences between the genders was found.
- The proportion of staff who regularly exercised had slightly reduced, although the proportion who walked/cycled to work increased compensating for this.
- Staff made a number of suggestions to improve the level of physical activity they took; the most popular was to have staff only sessions in the universities sport and leisure facilities.
- The cost of using the university facilities was perceived as a barrier especially to those staff on low incomes.

HEALTHY EATING

(Questions 17, 18, 19 and 20 were asked in both 1996 and 2000 surveys).

These findings contributed to the fulfilment of the following objective:

Objective (xii). This thesis will examine staff beliefs and their perceived behaviour towards healthy eating. It will explore any work barriers that prevent staff from eating healthily.

The importance of healthy eating

Question 17. How important is healthy eating to you?

**Table 4.28a Importance of healthy eating by Gender Cross-tabulation Year 2000
(with percentages for 1996 in italics)**

Gender	Very important	Not very important	Not at all important	Total
Male	49	12	1	62
Female	55	8		63
Total	104	20	1	125
Year 2000 %	83.2	16	0.8	100%
Year 1996 %	77.0	21.5	1.5%	100%

Table 4.28a shows there had been a slight increase in the number of staff who felt that healthy eating was important to them, a rise from 77% in 1996 to 83.2% in 2000. No gender breakdown was available for the earlier data. Those who felt that healthy eating was not very important had reduced from 21.5 % in 1996 to 16% in 2000 with just one respondent suggesting that it was not at all important to them.

Generally, female staff 87.3% perceived healthy eating to be more important than male staff 79%. Within their respective position groups all clerical staff, 89% of academic staff, 81% of administration staff and 66% of technical staff felt that healthy eating was *very important* to them. One member of technical staff (aged 51 to 65

years) felt that healthy eating was *not at all important* (see Healthy Eating Table 1 Appendix 14).

The importance staff placed on healthy eating increased with age from 66% of those aged 25 years and under, rising to 86% to those aged 51 years and above (see Healthy Eating Table 2 Appendix 14).

Reasons for not using university-catering outlets

Question 18. If you do not use the University catering facilities at work why is that?

Eighty-seven, (69.6%) staff provided written comments to this question an increase of 25% from the 1996 survey. In the 1996 survey, 36 (45%) staff highlighted four main barriers to using university-catering facilities; these can be seen along with similar responses in 2000 in Table 4.28b below.

Table 4.28b Comparisons of Staffs' reasons for not using University catering outlets Years 1996 and 2000

Staff reasons for not using University catering outlets	Year 1996 n = 36	Year 2000 n = 87
Cost of food and drink deemed too high	14 (38%)	62 (71.2%)
Not enough time to use the facility	11 (30.5%)	10 (11.5%)
No facility on their part of campus	6 (16%)	11 (12.6%)
Poor quality food	5 (13.8%)	14 (16.1%)

All percentages relate to the total number of responses to this question and not the total sample.

Table 4.28b shows the four main barriers to staff not using the university catering facilities. The cost was the major barrier to staff usage, an issue that appears to have almost doubled from 1996 to 2000. Lack of time available to use the catering facilities does not seem to be as significant an issue and is reduced by 19%. Although around one in eight staff perceived there were no catering facilities on their part of the campus, a slight reduction on 1996 figures even though the main staff restaurant had

closed prior to the 2000 survey. The food quality was perceived by a slightly higher proportion of staff to be poor in 2000.

Respondents in the 2000 survey generally preferred to eat their own cheaper healthy food/packed lunch 24 (27.6%). They believed that this gave them more choice from the limited and reportedly much processed food 18 (20.6%) in university outlets.

Cost was a significant factor, with a further 48 staff (33.2%) finding the catering too expensive to use with an overall total in 2000 of 62 staff (71%).

The quality of food emerged as an issue of price; poor quality food was further mentioned by 14 (16.1%) staff as a reason for not using University outlets.

Lack of time for meal breaks had become less of an issue since the 1996 survey, with 10 (11.5%) of staff who don't stop for lunch due to lack of time compared with 30.5% who commented on this aspect in 1996.

Linked to the time factor was the lack of catering facilities to service all parts of the campus 6 (6.9%). Moreover, services were limited to office hours and semesters so staff who worked outside these hours were forced to bring in packed meals or go off campus 5 (5.7%). A few staff did not realise that the university had any catering facilities 4 (4.6%).

Having nowhere to relax in pleasant surroundings and eat was a barrier for seven (8%) staff and two staff commented that they needed specialised diets low in fat (irritable bowel syndrome) so prepared their own food.

Staff, healthy eating and university food

Question 19. If you use the catering facilities at work, how healthy do you think the food is?

In 2000, sixty-five (48%) answered this question a 3% increase on 1996. In 1996, the percentage of respondents to questions 18 and 19 were constant whereas in 2000

17.6% more answered that they did not use university catering facilities (Question 18), thus 22% answered both questions suggesting perhaps occasional use.

Table 4.29 Comparisons of 'how healthy do you think the food is in university catering facilities?'

Data from Years 1996 and 2000 (with Gender)

How healthy is University food?	1996 n = 36 Valid Percent	2000		2000 n = 65 Valid Percent
		Male	Female	
Always healthy	18 (50%)	13	10	23 (35%)
Sometimes healthy	16 (44%)	15	15	30 (46%)
Never healthy options	2 (5.5%)	5	7	12 (18%)
Don't use Missing	44 (55%)	29	31	60* (48.0%)
Total	80 (100%)	62	63	125 (100%)

* Main staff restaurant closed six months before the 2000 survey.

Table 4.29 shows that in 1996 50% of respondents could get what they considered to be a *healthy meal* or *snack*, whereas in 2000 this had reduced to 35%. Healthy options were reported to be only *sometimes* available by 44% of staff in 1996 with little change by 2000, being slightly increased to 46%. Healthy meals or snacks were *never* available to 5.5% of the 1996 survey whereas this had increased to 18% in 2000. The closure of the staff restaurant may have influenced some of these changes. Nevertheless, staff perceived healthy food availability in university catering outlets to have declined.

The use of university catering was proportionately highest by clerical staff followed by academic, technical and administration. No manual staff used university catering (see Healthy Eating Table 3 Appendix 14). Although regularity of catering usage was not determined, the position usage provided an indication of which groups of staff expressed an opinion on the healthiness of university catering.

Suggestions for improving university catering

Question 20. What more do you think could be done to provide healthy food at the University?

From the 1996 survey, 19 respondents (23.75%) answered this question and 51 (40.8%) from the 2000 survey. Again all percentages relate to the total number of responses to this question and not the total sample.

In 1996 staff wanted more provision of healthy choices, snacks and salads 9 (47%). Suggestions were made for 'theme' days, a take-away service and further training for catering staff from 7 (38%). Three staff (16.6%) also felt that healthy foods should be subsidised by the University.

The 2000 survey revealed many similar issues with a larger sample and higher overall response rate. Healthy choices especially the provision of fresh juice/fruit and salad bars were suggested by 12 (23.5%). Improving the quality of food and the service was suggested by nine staff (17.6%). The key mechanism for improvement in the overall quality of food was for the university to subsidise cheaper healthy foods 16 (31.3%). One respondent summed up by suggesting that:

The directorate need to understand that catering is a service and not a form of 'income-generator' (R116).

Another member of staff proposed that the university should:

Remove chocolate and sugary soft drink vending machines and replace with healthier alternatives as the present system sets people up to 'fail' when hungry (R6).

Similar comments were received from R98.

The provision of better staff catering facilities with a 'staff common room' and restaurant were put forward, where people could eat an 'almost unhurried meal' by 8 (15.7%) respondents. Six staff (11.7%) wished to see the re-introduction and expansion of 'Mobile Munchies' (Catering van that toured various campus sites selling mainly sandwiches, pre-packed convenience food and fruit). More funding

and training for catering staff was stated by three (5.88%) respondents. Two staff stated that the indication of healthy options on menus would be useful.

You may see from my comments that food and the time to eat is important, I think that allowing staff the time to eat well and healthily will improve their lifestyle and their ability to cope with stress (R34).

**Summary of lifestyle issues around healthy eating at work
(Questions 17, 18, 19 and 20)**

- The importance that staff placed on healthy eating had increased from 1996 to 2000. Although some differences were noted across staff positions these were mainly influenced by gender. Female staff were more conscious towards healthy eating.
- As the age of staff increased so does their perceived importance of healthy eating.
- The main reasons given for not using university catering were increased cost, lack of time, food quality and convenience to staff.
- Overall, staff who used university catering perceived it to be less healthy in 2000 than 1996, but the number of staff using catering had increased.
- Clerical and academic staff perceived the catering to be healthier than other staff positions. Due to cost no manual staff used the service.
- Staff would prefer to have a catering service supported by the university rather than the existing income generating business.

SMOKING

(Questions 21, 22 and 23 were asked in both 1996 and 2000 surveys).

These findings contributed to the fulfilment of the following objective:

Objective (xiii). This thesis will seek to quantify the proportion of staff that smoke and explore amongst those staff, what support they would like should they wish to quit smoking.

The number and position of staff who smoke

Question 21. Do you smoke cigarettes?

Table 4.30 Number of staff that smoke 1996 and 2000 with Gender Cross-tabulation

Smoke Cigarettes					
Smoker	Year 1996		Year 2000		Year 2000 n = 125
	n = 80		Male	Female	
Yes	8 (9%)		3	8	11 (8.8%)
No	72 (91%)		59	55	114 (91.2%)

Table 4.30 shows the number and gender breakdown of self-declared smokers. In the 1996 survey, 72 respondents (91%) were non-smokers; this remained constant in the 2000 survey with 114 being non-smokers (91.2%) and 11 smokers (8.8%).

Across the staff positions, (see Smoking Table 1 Appendix 14) the number of self-declared smokers was small with 13.9% of administrators, 7.1% of academic and 6.25% of technical staff who smoked. None of the manual staff reported to be smokers. This data does not follow expected trends within the local or indeed national data. The sample size may have influenced these findings whereby unskilled positions would be expected to have the largest number of smokers. Female staff smokers outnumbered male smokers with a ratio of 2.6:1.

The age range of smokers (see Smoking Table 2 Appendix 14) showed a consistency across the 26 to 65 age group, going against the expected national trend whereby smoking levels fall with increased age.

Staffs' interest in how to quit smoking

Question 22. If you answered Yes to Q 21, would you be interested in help to give up?

In 1996, three of the seven smokers were interested in giving up smoking. In 2000, six of the eleven smokers wanted some help to give up smoking. Spearman's rho demonstrated a very strong and significant positive correlation with smoking and the desire to give up (0.949 with a significant correlation at the 0.01 level, 2-tailed).

Types of smoking cessation support requested

Question 23. If you answered Yes to Q 22, which of the following would help?

The preferred method to quit smoking in both surveys was with *expert help*; perhaps illustrating how difficult staff found quitting. Attending a smoking cessation course or having a leaflet or telephone support were also stated.

I feel I would only be able to give up in isolation from others, for example, if I became a monk/joined some alternative society, (R77).

Summary of lifestyle issues around smoking (Questions 21, 22 and 23)

- The low number of staff who smoked does not reflect local or national trends, probably because the university staff population sampled does not mirror the wider population. Nevertheless, administration, academic and technical staff were all represented in the smoking group.
- Almost two thirds of staff who smoke were interested in giving up suggesting support from expert help.

ALCOHOL CONSUMPTION

(Question 24 was asked in both 1996 and 2000 surveys).

These findings contributed to the fulfilment of the following objective:

Objective (xiv). This thesis will examine how many units of alcohol staff perceived they consumed during an average week and whether alcohol is used to cope with stress.

Staffs' average weekly consumption of alcohol

Question 24. On an average week, do you drink more than the recommended levels of alcohol?

**Table 4.31 Comparison of staffs average weekly alcohol consumption
Years 1996 and 2000 by Gender**

Weekly alcohol consumption	1996 Frequency	1996 Valid Percent	2000 Gender		2000 Frequency	2000 Valid Percent
			M	F		
Don't drink	0	0	3	4	7	5.6%
Within healthy limits	65	81.2%	54	56	110	88.0%
Above limit*	10	12.5%	3	3	6	4.8%
Excessively**	3	3.7%	2	0	2	1.6%
Total	78#	97.4%	125	125		100%

missing value = 2

Recommended limits for Women :- up to 14 units of alcohol per week

Men :- up to 21 units of alcohol per week

* Above limit equates to: (up to 21 units as women, or up to 28 units as a man)

** Excessively equates to: (over 28 units as a woman, or over 35 units as a man)

Table 4.31 illustrates the average weekly consumption of alcohol estimated by staff.

In 1996, 81.2% reported to drink alcohol below or within the health limit. By 2000 this had increased to 93.6%. The number of staff reporting to drink above the limit or excessively had fallen from 16.2% in 1996 to 6.4% in 2000, whether this was due to closure of the staff restaurant was not ascertained.

Staff position and alcohol consumption showed that six of academic staff 10.7% admitted to drinking above sensible weekly limits or excessively (see Alcohol consumption Table 1 Appendix 14). On the other hand, a similar number did not drink alcohol. With the exception of a single administrator, all the remaining staff consumed alcohol within safe limits. The use of alcohol is widely reported in other studies as a means to help people cope with stress and the amount consumed is often under reported. Under reporting may have skewed the above figures and therefore some caution is required in the data interpretation.

The relationship between alcohol consumption and age of staff (see Alcohol consumption Table 2 Appendix 14) revealed that a small proportion of middle-aged staff might be damaging their health with excessive alcohol.

Alcohol consumption and smoking

**Table 4.32 Average consumption of alcohol with smoking cigarettes
Cross-tabulation 2000**

Year 2000		Average consumption of alcohol				Total
		Don't drink	Within health limits	Above limit	Excessively	
Smoke cigarettes	Yes	2	8	1		11
	No	5	102	5	2	114
	Total	7	110	6	2	125

Table 4.32 shows that 95% of non-smokers consumed alcohol of which 93% consume within safe limits. On the other hand, 81% of smokers consumed alcohol of which 90.1% consume within safe limits. No significant correlation was found between smoking and alcohol intake ($p = .321$).

Summary of lifestyle issues around alcohol consumption (Question 24)

- There was an increase in the number of staff who consumed alcohol within safe limits, and a reduction in the number that drank above recommended limits.

- Some caution is required when considering this data as self-reported alcohol consumption within other studies suggested that people often under report the amount consumed.
- Academic staff were more likely to consume alcohol above the safe limits than other positions or abstain from alcohol.
- Staff aged 26 years and over were more likely to drink above safe limits, with a small proportion of middle age staff likely to be damaging their health.
- No relationship was established between smoking and alcohol consumption.

SYNOPSIS OF CHAPTER FOUR

This chapter has presented the findings from the 2000 staff survey and compared this to the data available from 1996.

University staff have demonstrated a high level of interest in health and workplace health promotion. Work related stress and perceptions of stress were analysed and coping strategies suggested by staff. Gender and work position differences to health awareness, stress perception and lifestyle factors were identified. Lifestyle factors around physical activity, healthy eating, smoking and alcohol have been explored by examining perception and self-reported behaviour.

The findings presented will be discussed in the next chapter with relation to the literature presented in the rationale.

CHAPTER FIVE

DISCUSSION

The aim of this chapter

The purpose of this chapter is to discuss the findings and results of this study in relation to the literature described in the Rationale chapter of this thesis. The aim is to identify areas where this study confirms, contradicts or clarifies issues raised in the previous research and contributes to new knowledge.

The main aim of this thesis is to:

Explore within a developing health promoting university the current factors that staff perceived as contributing towards or mediating against work stress. A subsidiary aim is to make some tentative comparisons with a health survey conducted in 1996.

This discussion will therefore attempt to outline staffs' interpretation of their working world to ground the data generated by the research process to formulate theory and therefore meet the secondary aim of this thesis:

To put forward recommendations and priorities for action to improve the health of university staff.

Therefore, this discussion chapter will also include recommendations for the university in the areas of health promotion and future research. A prioritised list of recommendations with some guidance notes for implementation can be found in Appendix 15.

The university setting provides the focus of this study on staffs' perspectives around work, stress and lifestyle health behaviour. Central to work based health promotion is the predominant way of working life in the university, since it fosters particular behaviour patterns that are either beneficial or detrimental to health (Dugdill and Springett, 1994; Tones and Tilford, 2001).

THE REPRESENTATIVENESS OF THE STAFF SAMPLE

THE POPULATION

The study began by examining the population profile demographic characteristics of the university staff and sample. Earlier studies had generally focused on separate occupational groups particularly academic staff (Doyle and Hind, 1998; Kinman, 1998). This study reported on all major occupational positions similarly to Cushway and Tyler (1996) but in a new university rather than an established institution.

From 1996 to 2000, the employed staff population had declined slightly despite a sustained increase in student numbers. Academic staff positions were found to be affected by staff reductions with a staff student ratio of almost a third above the national average (Bett, 1999). All support staff positions grew slightly in number although the overall net effect was a reduction in total staff numbers since 1996. A consistency was found in the number of part-time staff over this four-year period. Academic staff formed the largest sub-group, of whom female staff were almost three times more likely to work part-time as their male colleagues.

Response rate and potential non-response error

In the Methodology Chapter non-response error was suggested as a particular risk for mail surveys (Oppenheim, 1992; Mangione, 1998). The issue is not the number or proportion of non-respondents, but the possibility of bias. The response rate in this study had increased from 37% in 1996 to 51% in 2000, which was considered adequate for a postal survey (Cohen and Manion, 1994; Cushway and Tyler, 1996).

The size of any non-response error is dependent on how different the non-responders are from respondents (Oppenheim, 1992). Participants in the randomised 2000 survey represented 52 of the 81 departments, sections and subsections within the university; this covers a wide variety of working environments and staff positions. Mangione (1998) argues that in many studies 'little is known about the non-responders', (p.404). In this study, the non-responders were known; not as individuals, but through their

staff position (see Appendix 6 Department and Sections represented and Table 4.2b Staff employment position and randomisation page 75 in the previous chapter). Before making a judgement on the sample representativeness, it is worth considering the traits of non-respondents.

Traits of non-responders in this study

The Methodology chapter revealed that common traits of non-responders tend to be male, less educated, older than their peers or that they have some characteristic which makes them feel less relevant to the study (Peirce, 1995; Parahoo, 1997; Mangione, 1998 and Sapsford, 1999). These traits will be briefly reviewed.

In this study, the gender balance of respondents accurately reflected the university staff population with a homogeneity of variance $p = 0.000$. Staff position was less representative, with under representation from support staff particularly clerical and manual positions, confirming a similar response to that of Cushway and Tyler (1996). These support staff may be more skill based and less educated than other groups, although this aspect was not empirically tested so no conclusions can be drawn as to why they were not more representative. The age of respondents seemed to be indicative of an ageing workforce, which may have negatively affected the response rate, as almost half the respondents were aged 50 years or over.

Peirce (1995) and Parahoo (1997) suggested that some other characteristic in the sample may act as a non-respondent trait, in this study no sample characteristics or traits were determined. However, a possible confounding characteristic involved the timing of the data collection in 2000, three weeks before the end of a 15 week uninterrupted teaching term. This may have negatively affected the response rate.

The common traits of the non-responders in this research therefore concur with that previously highlighted in the literature (Mangione, 1998; Sapsford, 1999). More specifically, response variations in staff position means that some results are less generalisable. This calls for some caution as highlighted throughout the Findings chapter, particularly regarding manual and clerical staff positions.

Affectivity and potential bias

The methodology discussed the issues of negative affectivity (NA) and positive affectivity (PA) and how they have the potential to bias a study when respondent fixation occurs with the negative or positive aspects of all items on the questionnaire (Watson and Clark, 1984; Heinish and Jex, 1998). It was also suggested that in a workplace that NA especially, may be projected onto others as a 'contagion' and disrupt work cohesion (Moylan, 1994, p.55). In this study, the randomised sampling procedure ensured as far as possible a representative and unbiased sample of staff from across the university, thereby minimising potential NA 'contagion'.

Dollard and Winefield (1998) suggested that NA may be linked to certain work characteristics, particularly high demand, low control and low support. This study has shown that these are the factors that staff perceive as stressors, a concept supported by much of the literature from the rationale (Karasek and Theorell, 1990; Hardy, Shapiro and Borrill, 1997; Stansfeld *et al*, 1997). However, Dollard and Winefield (1998) warned that attempts to control for negative affectivity may underestimate the impact of work and the environment on work stress.

In this research, different aspects of the questionnaire assisted in the triangulation of the findings and in determining any affectivity bias. For example, correlations of work stressors with the perceived stress scale and scores, enjoyment of work and the data from qualitative comments provided different perspectives. These did not reveal any affectivity traits whereby individual respondents had perceived each item negatively or each item positively. Furthermore, the analysis of distribution curves of PSS showed normal distribution patterns of scores for gender variables.

The member of staff (a male) who scored the highest PSS also suggested that he was the victim of bullying and therefore justified his extreme stress. The rest of his questionnaire showed a variety of responses to 'other work stressors,' therefore discounting NA even in this extreme case. Moreover, the PSS scores when compared to a general population were higher for university staff, but not excessively so. No attempts were made in this research to control for negative affectivity other than those

already discussed. Therefore, the findings suggest that there is no evidence within this study that negative or positive affectivity biased the results.

STAFFS' INTEREST AND AWARENESS OF HEALTH AND WORKPLACE HEALTH PROMOTION

Objective (i). This thesis will examine the way in which staff in different occupational positions perceived the university to be a setting for health promotion.

HEALTH PROMOTION IN THE HPU

Awareness of health promotion

It is evident from the findings that staff awareness around health promotion had increased between 1996 and 2000 with around half the staff perceiving the university as valuing their health. Even so, only a minority of staff seemed to have an awareness of the HPU initiative as distinct from health promotion projects or single-issue health events. Staff who demonstrated an awareness of the HPU tended to be female and younger than their peers. Other staff perceived the HPU as something for students, perhaps due to the higher profile given to students' health promotion. Relatively few staff discerned the emerging Occupational Health Department to have a role in promoting staff health.

When examining examples of health promotion cited by staff, they covered aspects of environmental, physical, mental and social health. Williams (1994) argues that these aspects form an holistic framework for promoting and maintaining health. Indeed, almost half the staff in 2000 suggested ways in which the organisation might promote and improve health generally, signifying a willingness to think about health in the work setting. Administration staff particularly showed a proportionately higher group awareness of the HPU than other staff positions. Staff awareness of the HPU tended to be raised by some form of active involvement, in health communication or consultative process in the development of various policies for health maintenance and improvement.

This study has shown that the vast majority of university staff were interested in health, healthy lifestyle information and health opportunities being promoted in the university setting. Thus supporting the normative need expressed by the WHO (1997b) and (Tsolouros *et al*, 1998) for the development of Health Promoting Universities. These findings are also considered cognisant with Dooris (2001) who suggested that some HPU's are only just gaining momentum. Therefore further development is considered necessary to meet the aspirations and operationalise the strategic vision of the WHO (1997b) and Tsolouros *et al* (1998) to embed the HPU so that it is recognised by all the staff across the organisation.

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion.

Gender and health interest

Staff who were female, younger than their peers and from administrative or clerical positions perceived the university to value their health more highly than other staff. Female staff had a higher awareness of health promotion being orchestrated under the HPU initiative than males.

The minority of staff who did not wish to have health promoted at work were mainly male. These findings reinforce the fact that some men tend to ignore health messages (Banks, 2001; Siegfried, 2001), or are resistant to health promotion (Crossley, 2002) and that some women have an enhanced role as health provider or health information gatherer (Graham, 1984), which seems to reflect their family role (Graham, 1987; Miles, 1991; Gregor, 1997).

Conclusion about staffs' interest and awareness of health and workplace health promotion

In summary therefore, the new evidence, which emerged from this part of the study, indicates that university staff are interested in health promotion at work. Whilst they may not perceive the HPU initiative as being embedded within the university structure, their awareness around health and health promotion has increased over the four years since the inception of the HPU. This affirmed the importance of the social context of

the workplace as an important setting for health promotion (WHO, 1992; Dugdill and Springett, 1994).

This study also confirmed that gender differences existed in health awareness and interest in health promotion (Arber, 1999; Gianakos, 2000), demonstrating that younger university staff especially female have the highest interest and awareness. Enabling male staff to become more engaged in health promotion is something that requires further action.

Recommendations

(Guidance notes for the implementation of these recommendations and those that follow later in this discussion can be found in Appendix 15).

- Maintain female staff interest in health promotion and involve more male staff in health communications and health policy development.
 - To further target gender specific health education and promotion material especially to men.
 - Set up male and female health forums
 - Occupational Health Department to set up wellness clinics

Having discussed the characteristics associated with health awareness at work this discussion will now consider the factors associated with stress in the university.

STAFFS' PERCEPTIONS OF CURRENT FACTORS CONTRIBUTING TO WORK STRESS

Objective (vii). This thesis will examine whether university staff perceived their workload demand to be a factor causing them stress.

Objective (vi). This thesis will attempt to quantify the level of work stress perceived by university staff in different occupational positions.

THE WORKLOAD

In this study, workload emerged as the highest ranked stressor in 1996 and 2000 with almost two-thirds of staff in agreement in both surveys. This confirms much of the limited empirical evidence about workload available in other university surveys where different staff positions were considered (Cushway and Tyler, 1996) and the wider data on workload stress (Marmot, 1994; Parker, Chmiel and Wall, 1997).

Work overload seemed to be ingrained into the working culture particularly with academic staff, reflecting previous findings in North America and the UK (Blix *et al*, 1994; Fisher, 1994; Cushway and Tyler, 1996). Half of the academic staff in this study exceeded 51 hours in their average working week. This exceeded the national claim that academics in higher education were working half as much unpaid overtime as their basic paid hours (THES, 2000). When staff reflected on the hours they worked, all except the clerical staff, perceived a higher workload in 2000 compared to 1996. In particular, an increase of 17.1 hours a week was identified with female academic staffs' mean working hours.

The evidence in this study lends further support to Fisher's (1994) notion of the academic working long hours to the potential detriment of their families and their health, bringing into question the issue of work-life balance (Caudron, 1997; Hogarth *et al*, 2001).

Workload has to be the top priority for the university to address if any impact is going to be seen in reducing staffs' perceptions of stress.

Job demand and control

Objective (v). This thesis will explore whether staff perceived the level of job demand and control to be factors contributing to or mediating against work stress.

Mental demands

The vast majority of staff found themselves very often thinking about things that they had to accomplish. Male staff seemed to be more affected by these mental demands than female staff. However, differences in job demand and control were found across the staff positions, with academic staff perceiving this to be more of an issue than any group of support staff.

The evidence from this research demonstrates that support staff perceptions of job demand and workload have increased, although to a lesser degree than academic staff. Almost a quarter of administration and a third of technical staff exceed 41 hours work a week. This was despite the ten percent increase in support staff numbers between 1996 and 2000, going against the national trend suggested by Sanders (2000).

Job control and work enjoyment

The issue of choosing to work long hours for enjoyment and stimulation were highlighted in the literature (Spurgeon, Harrington and Cooper, 1997) in an attempt to provide some balance to the workload stress argument. This study found that although academic staff worked the longest hours, with the highest group PSS scores, they were generally very positive about work enjoyment. Work enjoyment was shown to increase with age, possibly reflecting senior position autonomy of some respondents.

Some staff may use their control over work as a source of stress relief and choose to work long hours, especially where they have a sense of autonomy over their work (Karasek and Theorell, 1990). The attitudes and motivation of such staff, together with the organisational and cultural climate are all likely to influence the level and nature of stress, enjoyment of work and health and performance outcomes (Spurgeon, Harrington and Cooper, 1997).

This study found that not all staff may necessarily wish to work extra hours, but working them enables staff to complete their work to see a product, or experience task closure which were important predictors in reducing work stress (Cooper, 2000;

EATCGP, 2000). Academic staff ultimately see the fruits of their work graduate but this sense of achievement eludes many administrative, technical and manual staff leading to less enjoyment of their work. These staff may endure what O'Brien (1982) suggests are repetitive, fragmented tasks, lacking variety and appearing meaningless, all contributing to stress and poor job satisfaction.

Keeping up to date was found to contribute to stress at work and shown to be statistically, significantly and negatively correlated to being angered by things outside of staffs' control. Therefore, feeling up to date with demands reduced the feelings of anger by things outside of the staffs' control, an issue that particularly administration staff grappled with.

Working part-time seemed to have had no effect on work enjoyment of staff going against the detrimental findings of the Bett Report (1999) and Bryson (2001) who examined casualisation of academic staff. However, the sampling criteria used in this study excluded hourly paid and casually employed part-time staff, which featured in the Bett (*ibid*) review of higher education and Bryson (*ibid*). Had these casually employed staff been included, the findings may have been different.

This study found that enjoyment of work varied by staff position. Control over demand and autonomy in decision latitude were key elements of the job demand-control model hypothesised by Karasek (1979). However, work enjoyment although significantly influenced by decision latitude, was also shown to be affected by unpredictable factors. For example, pending redundancy and career uncertainty acted as key 'other stressors,' supporting the findings of Warr (1992) and Raymond (2000). The amount of decision latitude full-time and part-time members of staff had, appeared to be an important factor significantly and positively correlated to work enjoyment.

Role ambiguity

Objective (viii). This thesis will explore whether role ambiguity at work is perceived by staff to contribute to work stress.

To explore the demands of work stress further, role ambiguity was examined in this study and proven to affect over half the staff who reported having difficulty with their work because it differed from their job description. Qualitative differences between work and the skills and understanding of staff gave rise to role ambiguity or qualitative overload resulting in performance difficulties supported in the rationale (Abramis, 1994; Cartwright and Cooper, 1997).

Changes in working roles

Staff shortages and changes in service resulted in staff taking on more roles or duplicating roles adding to perceived demand, especially time pressure and stress. The PSS characteristics that had statistically significant positive correlations with staff who perceived difficulties in work performance were: -

- difficulties piling up
- being angered by things outside of their control
- not coping with demands
- feeling nervous and stressed
- unable to control important things in life
- being unexpectedly upset.

These findings confirm similar work difficulties within the public sector (Watkinson, 1991; Fagin *et al*, 1996; Schaubroeck and Merritt, 1997) suggesting that role ambiguity contributes to work stress of over half the staff in this study.

On the other hand, the PSS characteristics that had statistically significant positive correlations with those staff who did not perceive difficulties in work performance were: -

- feeling on top of things
- things were going my way
- being able to control irritations

and negatively correlated with dealing with irritating life hassles. Therefore, the more confidence and control over work and fewer irritations staff perceived, enabled them to perform their job without feeling stressed.

Conclusion about workload, work demand, job control and role ambiguity

This study has shown that workload, job demand and control and role ambiguity are important factors and predictors of university staff stress. These findings substantiate the demand control hypothesis put forward by Karasek (1979).

Workload demand and working long hours were shown not to necessarily reduce work enjoyment. Indeed, for some staff they may add to their enjoyment and reduce perceptions of stress. It seems that work demand and the amount of decision latitude afforded to staff may act as mediators to either enhance or reduce stress as well as work enjoyment. Enjoyment of work and job autonomy was statistically and significantly correlated in this study. For the majority of staff work demand with perceived lack of control causes stress. Although this supports the job demand-control model (Karasek, 1979), uncertainties in the university around role ambiguity may cause autonomous self managed staff to feel stress about their work situation.

Recommendations

- Organisational change is required in order to reduce the workload demands on staff.
 - Senior management need to ensure that work demand is systematically addressed within the staff appraisal process for all staff but particularly academic staff.
- Because of the changing demands and role ambiguity faced by staff, staff need to be enabled to have more job control and autonomy.
 - The appraisal process should identify role ambiguity and department plans made to reduce ambiguity and increase autonomy.
 - Managers could increase the decision latitude within jobs commensurate with the ability of their staff.
- The university need to carefully consider the strategic implications with Trade Unions and staff of the issues raised by the European Working Time Directive (The European Commission, 1998) and its suggested 48-hour working limit.
 - Devise flexible ways to meet the organisational demands and those of staff members to ensure a measurable decrease in the number of staff who work excessive hours.

- Staff training in time and priority management may help to support those staff who perceive keeping up to date stressful, as part of the organisational and cultural change to reduce demand and increase staff control.

Having discussed the characteristics associated with stress around workload, job demand and control this discussion will now consider the factors associated with communication at work.

COMMUNICATION AT WORK

Objective (iv). This thesis will examine whether staff perceived organisational change, communication and communication technology at work as factors contributing to work stress.

Communication and organisational change

Effective communication was deemed an essential component within any organisation to develop, change and survive (Mullins, 1996; Burnes, 2000). Understanding the way decisions are made in the university required effective communication involving management, staff and often ICT.

A few staff perceived that poor communication caused them to feel disempowered and resulting in them having a lack of trust in managers and the way decisions were made. There were no comments to support the feeling of comfort or indeed confidence in the way decisions were perceived to be made. These findings were very consistent to those reported by Cooper, (1997) who found that lack of consultation and poor communication was an issue for half the staff in other workplaces, suggesting the adversarial nature of communication between some managers and their staff exists in the university (Keller, 1998).

Staff suggested that more effective and open communication was required to achieve a clearer understanding of the decision making and change processes, thereby reducing stress perceptions. Shaw *et al* (1993) suggested that when staff understands

the key decision making processes within and outside of their departments this might minimise stress.

The findings in this study suggest that two-thirds of staff perceived the way that decisions were being made caused them to feel stressed. A statistically significant negative relationship was found between communication and PSS 'difficulties piling up at work' indicating as communication became less effective, staff perceived that difficulties were piling up. Therefore, communication within the university does contribute to stress at work.

Full-time staff found communication relating to their job more stressful than those working part-time did. This finding ran counter to that expected, where it was thought that an information bias might have excluded part-time staff. Even though the sample of part-time staff was relatively small, it mirrored precisely the percentage within the total population and therefore this perception is likely to be generalisable.

The PSS characteristics that had statistically significant negative correlations with communication as a stressor were: -

- feeling unexpectedly upset
- unable to control important things in life
- thinking about things that have to be accomplished.

Therefore, poor communication increases feelings of being upset, lack of control and mental demands.

On the other hand communication was also statistically, significantly and negatively correlated with being able to control irritations, suggesting that the less stress from communication the more control staff perceived they had with irritations.

Communication of aims and objectives

It is evident from this research that when staff have a poor understanding of their aims and objectives this also results in stress as well as difficulties in job performance.

Statistically significant negative correlations were found between 'lack of clarity of our aims and objectives' and PSS characteristics of: -

- feeling nervous and stressed
- difficulties piling up
- feeling unexpectedly upset
- unable to control important things in life
- thinking about things that have to be accomplished.

Since these are negative correlations and as the aims and objectives lack clarity, the more these stress related feelings are likely to become evident.

A consistent theme that emerged from the literature suggested that effective communication involved managers offering a clear picture or vision of what was to be done and engage their staff in achieving this (Shaw *et al*, 1993; Parker, Chmiel and Wall, 1997). Effective managers also listen to staff and achieve results by using a 'supportive influence rather than command and control' (Emmott, 2001, p.59). The effective communication of aims and objectives for almost half the staff in the university falls short of the ideal reflected in the literature.

Communication technology and techno-stress

University staff rely heavily on ICT networks within and outside of the university to communicate. Most staff viewed ICT as helping them with their work. Information overload especially with e-mails was perceived as stressful and may result in important information being buried or contributing to technostress (Arnetz, 1996; Rizzo, 1999). The rationale discussed how commercial organisations were grappling with this problem to prevent staff becoming 'digital islands' by ensuring face-to-face encounters were appropriately used (BBC Radio 4, 2001).

Although not part of the research design, one respondent enclosed with their completed questionnaire a picture that they had drawn as part of a stress reduction class that summed up their problems with ICT. A note attached to the picture gave the respondent's details as a head of department further stating that they had 700 unread emails and suggesting they were in a 'Dantean hell.' '*I am a person not simply an email address,*' (see Figure 5.1 Technostress below).

Figure 5.1

Technostress



When staff perceived communication needed to do their work as stressful, for example, when the ICT network failed, a statistically significant negative correlation was found with being 'unexpectedly upset' and 'thinking about things that have to be accomplished'. These findings support the technology maintenance concerns of Huczynski and Buchanan (1991) and the phenomenon of 'technostress' suggested by Arnetz (1996) and Rizzo (1999).

The mental separation difficulties of ICT that may blur the boundaries between work and home posed by Fisher (1994) and Rosen and Weil (1997) were not supported by staff in this study.

Conclusions about communication at work

This research has demonstrated that the general level of communication is perceived as a stressor for at least half the staff. It is evident that the complexities involved in communication and communication technology can be both supportive and stress inducing at work. Staff perceived communication and communication methods as requiring to be more effective than those currently used across the university.

Effective communication would reduce stress in those staff who perceived that their aims and objectives lacked clarity. Nonetheless, as we discussed in the rationale the perfect communication system is yet to be devised and perhaps never will be (Hall, 1999).

Recommendations

- The decision-making processes should be made more transparent to enable staff to have increased involvement and ownership over issues that affect them.
 - Information about which decision making forum is responsible for the various aspects of university work and life is required. At present the complex committee structure, requires a great deal of time working in the system to begin to understand how it operates. Indeed, the committee structure is perceived as being too complex by many staff.
 - Managers and staff need to ensure that their aims and objectives are clearly understood.

- The advantages that information and communication technology brings to the workplace, such as speed and convenience in the communication process, requires both the sender and recipient to control or filter their messages to prevent important information being buried amongst trivia and communication overload.
 - Managers and staff may require training in how to communicate effectively and in the use of university ICT resources to filter information.
 - A communication protocol especially one that deals with the use and misuse of e-mails is urgently required.

Having discussed the factors around stress and communication at work, this discussion will now consider the factors associated with stress in the working environment.

WORKING ENVIRONMENT

Objective (x) – This thesis will explore whether the work environment is perceived as a contributory factor to stress by university staff.

Environmental issues

A few staff expressed symptoms of sick building syndrome in their comments, mainly limited to headaches and irritated mucus membranes of the eyes and nose supporting the findings of Spurgeon, Gompertz and Harrington (1996). Comments focused on the air conditioning system; inadequate temperature control, or noise and smell of hydraulic oil from lift shafts and general equipment breakdowns. Interestingly, all complainants were below 51 years and female from administration or clerical positions. The same staff who characteristically valued their health and health information. Sternberg and Wall (1995) found that excessive symptomology was more prevalent between female staff that dealt with high paperwork and psychosocial workloads; this may have relevance to the affected administration and clerical staff but was not explored further in this study.

The PSS characteristics that had statistically significant negative correlations with the working environment were: -

- difficulties piling up
- unable to control important things in life
- feeling nervous and stressed
- unexpectedly upset
- not coping with demands.

Therefore the better the working environment perceived by staff, the less these PSS characteristics are likely to show.

Resource issues

When resources are lacking or resource issues persistently hamper work, stress adversely affects work functioning and can lead to physical and psychological ill health (Cartwright and Cooper, 1997). Staff within this study raised both physical and psychological aspects of their work environment as stressful.

Lack of resources for work and in the working environment were reduced respectively from a ranking of second to fourth and fourth to tenth stressors from 1996 to 2000.

This possibly reflected the results of the university's capital investment in new buildings and refurbishment programmes.

Resources at work and the environment also showed statistically significant negative correlations with being able to control irritations, being confident in handling personal problems and effectively coping with changes. This suggests that the less stress from resources at work and in the work environment the more control and confidence staff perceive within their working environment.

Conclusion about the working environment

This research found that the work resources and the working environment have improved since 1996 with a subsequent reduction in their stress rankings. The empirical measurements in this study support Cartwright and Cooper (1997) who argued that the physical environment could affect stress perceptions of employees. The working environment and the PSS demonstrate that the university environment does contribute towards and mediate against stress.

Recommendations

- The university should maintain vigilance over monitoring of the working environment through the Health and Safety and Occupational Health Departments.
 - Ensure that health issues pertaining to sick building syndrome are appropriately investigated and causes remedied.
- Seek ways to improve internal cooperation between departments and faculties.
 - Reclaim social space for staff as a means of improving cross-departmental working.

Having discussed the factors around stress and the working environment, this discussion will now consider the factors around stress in staff relationships at work.

STAFF RELATIONSHIPS

Objective (ix). This thesis will explore whether staff sees positive staff relationships, along with support from peers and managers, as contributing to or mediating against their perceived work stress.

Support from other staff

This study showed that staff perceived support from managers to have decreased slightly between 1996 and 2000, although no statistically significant relationships were found with other stressors or the PSS. Slightly more than half the staff did not rank this item suggesting that their managers appropriately supported them. The majority of staff also perceived staff relationships and their relationships with students positively, with around a quarter of staff ranking these items as their least work stressors.

Nevertheless, approximately a third of the staff perceived staff relationships as stressful, demonstrating one statistically significant and negatively correlated characteristic of the PSS as: -

- thinking about things that have to be accomplished.

When staff relationships were supportive, this perception of accomplishment demand was reduced. It is therefore suggested that support from managers and peers must be seen in the context of control over the pace of work, including job autonomy, also that staff social interaction at work may mediate against stress.

Bullying at work

Bullying at work was raised by a small number of respondents who gave examples of unreasonable workload and manipulation. Olweus (1996) argued that bullying is typically based on an asymmetrical power relationship. Crawford (1987) suggested that subtle bullying within an organization may operate covertly and therefore be difficult to detect. Because this study guaranteed anonymity staff may have felt safe in disclosing their concerns about bullying, this emerged through their written qualitative comments.

Hannabuss (1998) and Crawford (1999) suggested that tackling the problem of bullying was likely to be a major corporate challenge requiring high levels of diplomacy and skill. From the evidence in this study, bullying seems not to be a major challenge for the University of Eddington. Nevertheless, for those individuals that are victims of bullying it may cause them enormous personal stress. When the PSS scores for these respondents who mentioned being bullied were examined, one had a PSS score of 45; the highest in this study and the others were in excess of 30, hence much higher than the staffs' mean scores.

Conclusion about staff relationships

For the majority of staff the support from peers and managers in their workplace at the university are supportive, reducing job stress and concurring with Marmot *et al*, (1991) and Fagin *et al* (1996) and Viswesvaran *et al* (1999). Subtle work place bullying emerged as an issue for a small minority of staff from the qualitative comments being further supported by the recipients high levels of stress on their PSS.

Recommendations

- All managers need to be made aware of and recognise the benefits of good social support at work.
 - Enabling the benefits of social support to be recognised and enabled in practice will assist in embedding this support into the culture and processes of the university.
- Ensure that staff are regularly made aware of the harassment policy and procedures to expose and deal with bullying.
 - Staffs' perceptions of what constitutes bullying may need to be updated in light of this study and the subtle almost benign way that bullying may manifest.

Having discussed the factors around stress and staff relationships at work, this discussion will now consider the factors associated with gender and stress in the work environment.

GENDER AND STRESS

Objective (iii). This thesis will investigate whether gender affects staff interest in health promotion and perceptions of work stress in a university.

The first aspect of this objective was discussed earlier under staffs' interest and awareness of health and workplace health promotion, the second aspect will now be considered.

Gender stress at work

This study explored features, which may potentially affect gender and stress by examining recent work and life events through the characteristics and variables of work and perceived stress. The dynamics of gender differences confirmed the value of exploring these with staff positions where stresses were manifest in day-to-day work and life events (Bolger *et al*, 1999). In this study, different work factors accounted for gender related stress confirming the earlier findings of Piltch *et al* (1994) and Clark, Chandler and Barry, (2000) particularly around mental distress. Although the hypothesis of gender differential vulnerability (Pugliesi, 1999) was endorsed in this study, because women were found to be more responsive than men to work stress (Cohen and Williamson, 1988) it could not be statistically proved.

Women were found to cope better than their male counterparts in a number of PSS items particularly female academic staff. The PSS revealed gender differences of which none were statistically significant.

The characteristics for male staff were more likely to be:

- thinking about things they had to accomplish
- more angered by things they could not control
- feeling unable to control the important things in life
- being upset unexpectedly.

Therefore, male staff tended to be goal orientated and liked being in control and having predictability in their work and lives.

On the other hand, females were more likely to be:

- feeling difficulties piling up so high that they could not overcome them
- feeling a lack of control over the way they spend their time
- feeling they deal with more irritating life hassles
- feeling less likely to be on top of things
- feeling less able to control irritations.

Thus, female staff were dealing with more irritations and suffering from stress induced by demand overload and pressures on their time (Holmshaw and Hillier, 2000). Gender differences were found to exist across occupational position supporting Spielberger and Reheiser (1995), Doyle and Hind (1998) and conflicting with Greenglass (1995) who found no differences in stress perceptions.

Conclusions about gender and stress

This study has found that gender difference exist around stress perceptions of university staff. Interactions between work and life stressors, which may spill over across work, and non-work domains were more likely to affect women. Women experienced greater time pressure demands confirming the findings discussed in the rationale (Repetti, 1987; Furnham, 1991; Quick *et al*, 1992).

Recommendations

- Staff and particularly managers need to be aware that stress in the university may affect men and women differently.
 - Gaining an understanding of their staffs' individual circumstances may alert managers to spill-over stress which affects both genders but women more so than men.

Having discussed the factors around stress and gender at work, this discussion will now consider the factors suggested by staff to assist them or others to cope with stress.

SUGGESTED STRESS COPING FACTORS BY AND FOR UNIVERSITY STAFF

Objective (ii). This thesis will explore suggestions made by the staff that enables them to manage stress at individual, departmental and university levels.

An individual's ability to cope with the demands of the workplace is partly dependent on how they experienced stress and how much control and support the organisation determines (EATC/GP, 2000). This study has explored the personal meanings that staff attached to coping with work in the university. To make sense of how staff feel and harness their ideas around coping, a similar position to that put forward by Benner and Wrubel (1989) was adopted starting with the staff rather than managements' perceptions of how staff copes. Thus, the context of the workplace and the coping strategies felt to be important by university staff were not dissociated from the organisation complying with the earlier work of Pritchard and Pritchard (1994) and Cox and Thompson (2000).

Individual and organisational coping

The staffs' suggestions in this study fell into two broad categories; helping the individual to cope with work through individual or group social interventions and the larger category, organisational development through management and work communication. Broadly, these two types of coping fit into stress management interventions suggested in the rationale (Fontana, 1989; HEA, 1994; HSE, 1998, 2001a, 2001b) to help employees cope and improve organisational development (Clulow, 1994; Cartwright et al, 1995; Rosenstock, 1997; Kompier and Cooper, 1999).

By targeting individuals or groups of staff to reduce their stress, implies that the problem resides with them and that the organisation is symptomatically responding. This raises ethical problems with staff potentially being labelled as failing (Cushway and Tyler, 1996; The European Commission, 2000) and fails to get at the root of the

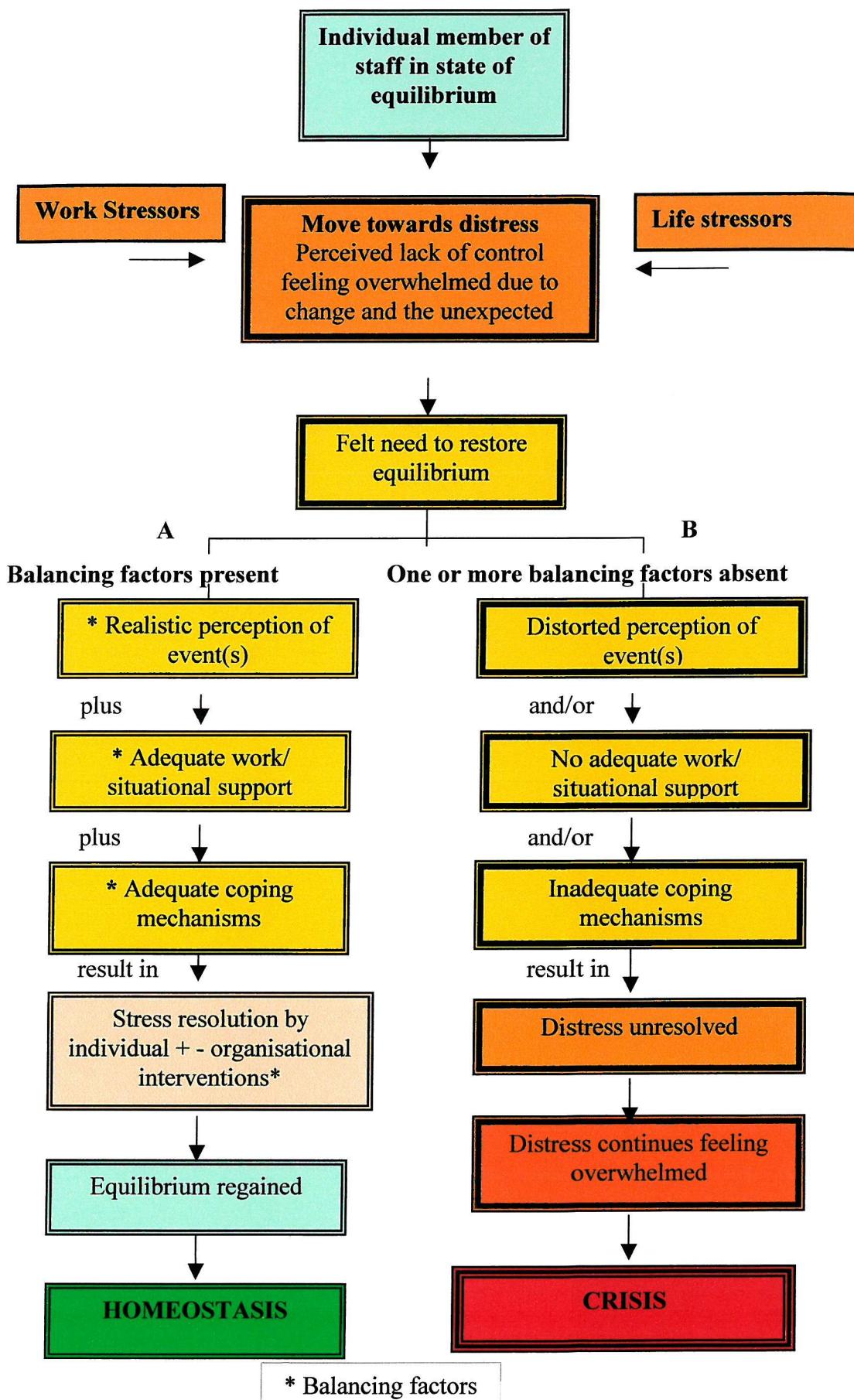
problem. Nevertheless, some staff perceived that individual support would assist in their coping and may require financial outlay from either the individual or the university.

The second category, coping at an organisational level has no major financial implications. Organisational level interventions requires management and staff to work more closely towards reducing negative outcomes and consequences by changing the stressful aspects of work. This study has confirmed that the triad of factors found to induce stress through their unpredictable, uncontrollable and overloading nature, effects work and consequently perceived stress scores of university staff (Cohen, Kamarck and Mermelstein, 1983; Quick *et al*, 1992). Furthermore, the stressors facing most staff in this study were liable to be ongoing rather than acute and therefore having a cumulative effect rather than immediate impact (Watkinson, 1991; EATC/GP, 2000). The coping suggestions made by the staff were aimed at reducing this 'distress triad' and preventing acute factors becoming chronic stressors by returning the individual to the de-stressed state.

Family friendly policies were suggested as a means, by female staff, to assist their coping. Although this is not a new idea, more flexible working patterns would be particularly helpful to staff who have others to support outside of their working environment. Inflexibility only prejudices these staff particularly women (Cartwright, 1987).

Figure 5.2 below illustrates a model of balancing factors from university staff incorporating individual and organisational support.

Figure 5.2 Model of distress /de-stress balancing factors



Conclusion of suggested coping factors by and for university staff

The results of this study suggest that both individual and organisational types of intervention would help to reduce and prevent stress in the university. Importantly, staff put both these types of intervention forward, they were highlighted in the rationale and therefore likely to meet with staff support and be effective.

Managing stress has been shown to require realistic perceptions by the staff and management of their work situations. Situation support needs to be available and capable of dealing or referring the individual on to alternative support. Coping mechanisms to reduce staff perceptions around unpredictability, uncontrollability and the feeling of being overloaded need to be incorporated into individual and organisational coping strategies. Some of the common work stressors could be avoided and designed out of working practices.

On the 19th March 2002, the University of Eddington issued a University Stress Management Policy. The following is an extract:

The University's Health and Safety Policy specifies that all employees have a duty of care for their own health and safety and also for that of other people in the workplace. This includes a duty of care to avoid stress. (2.4)

Recommendations

- The university needs to produce a stress policy that recognises that victim blaming treats only the symptoms (as above) and not the causes of stress and using the findings from this study will assist in this process.
 - The policy should examine the coping factors suggested by staff to reduce their stress.
- Any employee who believes that they are suffering adverse effects from their work or work environment should seek support from their head of department, the Occupational Health Nurse or Personnel Services.
 - Further resources may need to be developed or bought into to effectively manage stress at an individual level.

- Managers need to consider the ongoing situational support that staff may require as university work changes.
 - Enabling more flexible working to take place, even in the short term, may enable staff who feel distressed to effectively deal with their situation.
- The directorate could consider relaxing its rules on space charging whereby departments are charged for every area within their control. This has effectively removed staff social space to enlarge the teaching capacity across the university.
- Departments need to regularly examine the way work is organized through the structures and processes of the university, to reduce the staffs' feelings of unpredictability, uncontrollability and of being overloaded.

Having discussed the stress coping factors suggested by staff, this discussion will now consider the lifestyle factors that may help to reduce stress and improve health.

LIFESTYLE FACTORS TO REDUCE STRESS AND IMPROVE HEALTH

Objective (xi). This thesis will examine staff beliefs and their perceived behaviour towards physical activity. It will explore any work barriers that prevent staff from achieving their desired level of physical activity.

PHYSICAL ACTIVITY

The importance and perceptions staff attributed to physical activity

In this study, almost all the staff surveyed rated physical activity as important or very important, demonstrating a small increase in perception and importantly an increase in physically active behaviour since 1996. Perceptions and behaviour of physical activity were statistically significant and positively correlated. More staff were regularly 'walking to work', 'cycling' or 'walking the dog' than in 1996 with only a small reduction in those taking other forms of 'regular exercise'. As stated earlier the gym facilities were closed during the academic year of the 2000 survey so a reduction

in regular physical activity from staff who would normally use this facility was expected. Nonetheless, the sports and leisure department had begun to work to promote physical activity back into peoples' daily lives. Thus supporting the idea, that habitualising physical activity is effective in maintaining physical health behaviour (Hillsdon *et al*, 1995; Watkinson, 2001).

Gender and physical activity

No significant gender differences were observed in importance of or behaviour towards physical activity in this study, going against the national trend of males being generally more physically active than females Bridgwood *et al* (1996). The inverse relationship between the amount of physical activity undertaken and age was only partially demonstrated (Bridgwood *et al*, *ibid*), because the 26 to 40 year age group were the least active. This may have been due to the time pressures faced by many staff in this age group looking after family members or staff studying.

Springett and Dugdill (1995) and McGillivray (2002) suggested that unequal demands of time between men and women curtailed women's participation in workplace fitness provision. The findings from this study generally support this difference although they also indicate that men are under time constraints perhaps due to workloads.

No statistical significant relationships were found between the amounts of physical activity undertaken and total PSS scores, although a weak negative relationship was identified. This indicates that lower levels of physical activity may increase stress perceptions or that staff with high stress perceptions undertake less physical activity.

Work barriers and socio-economic barriers to physical activity

Staff identified barriers to physical activity as falling into two main categories. The first is centred around inactive job design, especially static jobs, for example working on a keyboard for long periods. The second concerns the availability and sole use of university sport and leisure facilities for staff and the cost. These factors seem to preclude staff on low incomes and therefore if employment conditions improved, including family support, this may facilitate time for physical activity and stress reduction at work (Griffiths, 1996).

Recommendations

- Managers need to ensure that staff who are in static positions for long periods at work, have regular opportunities to undertake physical activity at work during their working time.
- The university should review the cost of joining the university's gym, sport and leisure facilities as they seem to be prohibitive for many support staff. If fees were scaled according to salary/wage then more support staff on low wages would consider joining.
 - Because some staff find physically active students to be a barrier to their own activity the availability of staff only sessions could be examined and timetabled into the university's sport and leisure facilities.
- Improved employment conditions and work life balance especially to enable staff who have out of work commitments to increase their participation in physical activity at work.

Having discussed physical activity, we will now turn to examine healthy eating at work.

Objective (xii). This thesis will examine staff beliefs and their perceived behaviour towards healthy eating. It will explore any work barriers that prevent staff from eating healthily.

HEALTHY EATING

The importance and perceptions staff attributed to health eating

In this study, the number of staff who felt that eating a healthy diet was important had increased by 5% to 83% between 1996 and 2000. Gender and age differences were observed with older staff and almost 90% of female staff agreeing that healthy eating was important. The same pattern towards the importance of a healthy diet was reported by Sprotson (1999) and Davis, Giles, and Rona (2000) in the general population.

Socio-economic differences in perceptions around healthy eating

Occupational and socio-economic differences were found across the staff positions regarding the importance of healthy eating, supporting Nelson (1999) regarding health inequalities around nutrition. Clerical and academic staff valued healthy eating and found the university catering facilities to offer healthy choices. Administration, technical and manual staff attributed slightly less importance to healthy eating and strongly suggested that the cost of food in university outlets was too high, preferring to bring in their own cheaper food to consume at work. Thus, indicating a link between university occupation and socio-economic behaviour regarding the purchase of healthy food at work (Townsend *et al*, 1992; Department of Health, 1998, 1999).

Staff would prefer to have a catering service supported by the university rather than the for profit business that currently exists to bring them inline with other major city employers, such as the NHS Hospital Trust and Local Council.

The importance attached to healthy eating had no statistically significant relationships with the total PSS scores, although a weak negative relationship was noted. Under stress, staff may eat unhealthy, perhaps cheaper options or decrease their consumption of food (Grunberg and Straub, 1992). Lack of time and convenience to use the catering outlets were also found to be barriers to healthy eating at work.

Recommendations

- The university should develop a nutritional policy to assist in clarifying whether it wishes to subsidise healthy options particularly for those staff on low incomes.
- That lunchtime workloads and demands made on some staff especially those who suggest that they cannot regularly take a proper break be further investigated.

Having discussed healthy eating, we will now turn to examine the health and stress issues around the smoking behaviour of staff.

Objective (xiii). This thesis will seek to quantify the proportion of staff that smoke and explore amongst those staff, what support they would like should they wish to quit smoking.

SMOKING

Smoking and cessation support

This study revealed that less than 9% of the staff declared themselves as smokers, a finding that has remained consistent since 1996. University staff seem to have a much healthier behaviour towards not smoking than that seen in national surveys, going against expected trends (Prescott-Clarke *et al*, 1997; Sprotson, 1999). Moreover, a very strong and significant positive correlation was found between smoking and staff wishing to quit. The preferred method for smoking cessation in both surveys was with expert help; perhaps illustrating how difficult staff found quitting due to the addictive nature of smoking (Cummings, 1997; Jarvis, McIntyre and Bates, 2002).

Stress perception and smoking

In this study, female staff scored more highly on the PSS than male staff and were almost three times more likely to smoke, loosely supporting Stansfeld *et al* (1997) and Ferrie *et al* (1998) who reported that female civil servants smoked significantly more than men. However, due to the small number of staff who smoked, no statistically significant relationships were identified between smoking and total PSS scores, although a weak negative relationship was noted.

The findings from this study regarding smoking behaviour of university staff are very encouraging. It can be concluded, that very few staff use smoking as a mediator to reduce stress or indeed to help them relax socially with alcohol. The majority of staff who smoke would welcome support in order to give up.

Recommendations

- As a large employer, the university could celebrate the high number of non-smoking staff especially in its literature and recruitment policy.

- Periodically remind staff that the university's non-smoking policy enables those who wish to quit to gain access to expert help free of charge, and importantly during working time to assist this process.
- The university should celebrate the healthy smoke free environment it has created and maintained for staff and could offer support to other organisations.

We will now turn to discuss the staffs' behaviour around alcohol consumption.

Objective (xiv). This thesis will examine how many units of alcohol staff perceived they consumed during an average week and whether alcohol is used to cope with stress.

ALCOHOL

Alcohol consumption by staff

In this study, the number of staff who consumed alcohol within safe limits had increased by almost 7% to 88% between 1996 and 2000. The number of staff who drank excessively was found to be 20% less than that reported in the wider population (Bridgwood, *et al*, 1996). The potential for bias, in self-reported health behaviours with memory distortion by respondents are recognised as potential problems in health research (Hutcheson, Henderson and Davies, 1995; May and Foxcroft, 1995). Nevertheless, the data from both the 1996 and 2000 surveys demonstrated a generally consistent picture regarding staffs' alcohol consumption.

Frone (1999) suggested that employee alcohol use may be a direct or indirect response to physical and psychosocial qualities of their working environments. This current study observed that academic staff were more likely to consume alcohol above the safe limits than other staff positions, but this was still less than that observed in the general population (Bridgwood, *et al*, 1996; Sproston, 1999). No statistically significant relationships were found between the amounts of alcohol consumed and total PSS scores, although a weak positive relationship was noted.

Alcohol abuse by university staff was seen to affect a very small minority of staff in this study. It seems that the small number of staff who consume alcohol excessively

may benefit from its palliative effects on stress as a coping behaviour (Martin, Kraft and Roman, 1994).

The majority of staff in the university are likely to gain health benefits from their moderate consumption of alcohol, similar to the findings in previous research (Doll *et al*, 1994; Hutcheson, Henderson and Davies, 1995; Sayette, 1999). Thus, the findings from this study regarding university staffs' behaviour towards alcohol consumption are very encouraging.

Recommendations

- Staff need to be reminded that the university's alcohol policy ensures that if staff admit to problem drinking they have the issue treated in confidence, allowing sickness absence or time off whilst at work to access professional support.
- The recommendation that staff do not consume alcohol during their normal working day appears to be gaining momentum, but requires to be embedded into the culture.

Conclusion of lifestyle factors to reduce stress and improve health

University staff in this study placed having a healthy lifestyle as an important factor in their working lives. The health related behaviour reported seems to be better than that in the general population, especially around areas of non-smoking and alcohol use. Whilst staff levels of physical activity and awareness about healthy eating has generally improved, the relatively high cost to join and use the gym or use the university catering facilities has highlighted the socio-economic gradient that currently exists amongst staff. Low paid staff are therefore considered to be disenfranchised from some of the benefits to health at work in the university.

MANAGEMENT ISSUES EMERGING FROM THIS STUDY

HOLDING THE LINE

Developing the HPU further

This study has shown that the development of the HPU has assisted the university to hold the line regarding staff stress in the face of the workload demands, uncertainty and change perceived by staff. There remains a need to make adequate provision for dealing with staff-distress to create a climate in which the stress of the entire organization can be acknowledged openly. Obholtzer and Roberts (1994) commenting on the 'helping professions' especially teaching, give the example of anxiety and distress being as much part of the atmosphere and as widespread as coal dust in a mine.

Coalmines, as in the human services delivered within a university, require attention to keep the 'coal dust' to a minimum. There is a need to prevent the build up of noxious gases (fire-damp) or stress from becoming an explosive mixture by detecting its effects as early as possible, well before staff manifest symptoms of stress induced illness. The ideal situation is where the university puts strategies in place, not to cover themselves against litigation, but through a belief that they help people and therefore the university's business.

Recommendations

- To systematically collect data and develop comprehensive reporting systems to enable the university to quantify areas of stress and tension that need to be addressed. This information currently is either not collected or is anecdotal or gained by ad hoc arrangements needing to be formalised.
- Acceptance of the stress issues by the top managers (at Directorate level) will help to promote the development of shared solutions to the problems experienced by staff.
- Implement a policy whereby self-certified sickness monitoring is managed centrally ensuring confidentiality in partnership by the Occupational Health and Personnel Department.

- Stressed and sick employees should no longer be viewed as necessary casualties of change as they have been in the new stress policy highlighted earlier.
- The annual appraisal could form and be viewed as an employee ‘job fit health check’ as well as ensuring that the organisational objectives and aims are gained.

CONCLUSIONS AND KNOWLEDGE GAINED BY THIS RESEARCH

Longitudinal comparisons

This study has provided a rare opportunity to explore some longitudinal comparisons around staff stress perceptions and work lifestyle behaviours in a university. The findings in this study have shown that the pattern of work within a university has changed over recent years, with the demands of work affecting the perceptions of stress in all staff positions. If not challenged, university work can and does create conditions that increase staff perceptions of stress and diminish lifestyle opportunities to maintain their health. Workload demand particularly on academic staff reduced their level of autonomy and contributed to the highest PSS amongst the various staff positions.

This research focused on an expressed need perceived by staff as problematic. Work stress was found to be an issue on which most people have an opinion and yet few will admit to be suffering from in public. The use of anonymous questionnaires allowed the barriers people erect about how they feel to be breeched. Negative affectivity proved not to be an issue with these respondents, with constructive and thoughtful comments put forward by staff. The importance of starting to explore health and stress issues where people work and interact is important, especially when we have seen how much time staff spend at work.

This research has clarified that within higher education organisational issues around work are of central importance if stress is to be further reduced and health better promoted. By adopting a worker perspective, which has probably received less consideration than that of the management perspective, this study has considered the conditions at work that may shape health and health behaviours of staff.

These findings demonstrate an increase in the number of staff who have adopted healthier lifestyles with an overall reduction in perceived stress levels, although tensions still exist.

Many staff felt disenfranchised especially those on low pay as they could not afford to use the university gym or catering facilities due to the prohibitive costs, limiting their health promoting opportunities.

This research indicates that the HPU initiative is not yet fully embedded into the university. It requires a greater involvement of the staff, especially senior managers and the unions to embed health further into the culture and processes of the organisation. The driving and restraining factors encountered during the development of this HPU have been incorporated into Table 5.1 below. They represent the ideal and rhetoric versus the operational reality of developing a healthy work culture into higher education.

The settings based approach adopted by the University of Eddington together with the recommendations from this research have enormous potential in integrating and enhancing health promotion into the university's working practices and within similar HEIs.

The recommendations made in this thesis perhaps have a broader audience; especially as developing health promotion within a setting seems to be easier to gain visibility when people become actively involved. Increasing and maintaining the staffs' involvement is perhaps an issue for further research.

The driving and restraining factors for a HPU

Table 5.1 Driving and Restraining Factors for a HPU

HPU Driving Factors	HPU Restraining Factors
<ul style="list-style-type: none"> • Organisational development benefits • Positive public image – prospectus and website and the staff • Attracting and keeping staff and students • Enabling staff and students to be more autonomous • Promoting coping and stress management • Promoting social support amongst staff and students • Sense of identity with and loyalty to the university and feeling of being valued • Facilitating occupational health and safety • Promoting self-concept, self esteem and self development • Integrating schools, departments and faculties • Integrating organisational goals and personal goals • Improving the TQA <i>link to 6 aspects</i> • Integrating existing initiatives to cultivate synergy • Acceptance that work can positively contribute to healthy lifestyle behaviour • Promoting openness and trust in organisational learning, change and development • Concern for the quality of working life and job design and managing change 	<ul style="list-style-type: none"> • The changing nature of universities as working environments • Competitive marketplace within higher education to produce more with less resource* • The internal market which contributes to negative support between departments • Financial constraints – cost of resources and orchestrating the HPU work • Initiative overload • Cynicism about health • Acceptance of the status-quo • The nature of stress at work • The perception that stress is good and motivates everyone • Stress seen as the fault of the victim • Risk management that does not view work stress as an issue • The perception that stress cannot be ameliorated from working practices • Intra organisational research uncovering issues that are difficult to deal with • Power relationships and fear of challenge and change • Reluctance to recognise individuals needs and expectations of work differences and attributes • Reluctance to accept that work may contribute to unhealthy lifestyle behaviour

* may act as a driving force

RECOMMENDATIONS FOR FURTHER RESEARCH

Comparability with other HEIs and HPUs

In order to ascertain if the findings around work and staff perceived stress are generalisable in other universities, aspects of this study could be replicated in higher education institutions.

- Ideally, comparative studies using the same methodology with HPUs and non-HPUs, that are carefully matched to remove extraneous variables, would identify the generalisability of the usefulness of settings based approaches to health promotion in universities.

Working practices and staffs' behaviour

Enabling staff to develop their autonomy should empower them to safeguard and enhance their health at work (Seedhouse, 1986; Tones, 1998a, 1998b). Many of the aspects highlighted below would also lend themselves to investigation by qualitative means.

- Further research is required to examine how the job specifications of different positions of staff could allow more autonomy whilst still enabling the employee, department and university's aims and objectives to be realised.
- As the HPU initiative develops, research into the socio-economic barriers that exist with staff health behaviour at work could be further explored.

Health behaviours

Wider research is required to identify the extent and pattern of health behaviours in other university staff populations.

- How their [institutional] working practices attempt to reduce stress and support staff within different occupational positions requires identification in order to share good practice.
- Further research is required to examine the work-based issues of staff who have high PSS scores especially around bullying at work.

Throughout the research process for this thesis a number of papers and conference presentations were given by the author on a variety of aspects of the HPU, see Appendix 16.

POST SCRIPT

A series of management information briefing (MIB's) seminars have been implemented where key findings from this study have been presented to senior managers. Between eight and ten managers attended each of the seminars, which last for two hours (refreshments provided), and cover the causes and effects of stress, together with how to recognise the signs and symptoms in self and those being managed.

The aim is for the university to try to prevent stress through the way it organises work. Moreover, it provided managers with information and ideas to enable them to become more proactive in stress prevention, recognition and understand the lines of available support.

Attendees have included the following:

- Members of the Directorate
- Directors of Personnel
- Faculty Heads
- Heads of Academic Departments
- Heads of Support Services

Future agreed outcomes

- Workload and work hours are subject to reappraisal in line with the annual staff assessment.
- Decision-making and communication issues are under consideration by the executive who have undertaken to ask all staff their views on communication.
- Agreement has been made to expand the Occupational Health Department to monitor health performance indicators.
- In the short-term staff may be formally referred or self-refer to the student counselling service administered and run by the university, although it is recognised that an external provider would be more acceptable to some staff.
- The personnel department is undertaking a role-out programme of training around communication especially for middle managers.

APPENDIX 1

Categories of the National Statistics Socio-economic Classification linked to Socio-economic Groups and Social Class of University Staff

Social Class and broad University Staff Positions		National Statistics Socio- Economic Categories (2001)
I	Professional occupations Professional workers some academics and administrators at senior managerial level	3.1, 3.3
II	Managerial and technical occupations Managers of departments, higher and lower professionals academic and administrative	1, 2, 3.2, 3.4, 4.1, 4.3, 5, 7.3, 8.1, 8.2, 9.2
III N	Skilled occupations – non-manual non professional Technical, clerical and administrative staff	4.2, 4.4, 6, 7.1, 7.2, 12.1, 12.6
III M	Skilled occupations – manual Skilled manual workers electricians, plumbers	7.4, 9.1, 10, 11.1, 12.3, 13.3
IV	Partly skilled occupations Semi-skilled manual, gardeners, semi – routine operatives clerical and administration assistants	11.2, 12.2, 12.4, 12.5, 12.7, 13.1, 13.2, 13.5
V	Unskilled occupations non-trade manual workers - Caretakers	13.4

Based on National Statistics (2001) 'Continuity issues: Social Class, socio-economic group and national statistics socio-economic classification categories'.

APPENDIX 2

PHYSICIAN CERTIFICATED SICKNESS ABSENCE

Tables A.2.1 (1997) and A.2.2 (2000) are based on certified sickness from medical practitioners. No organisational wide data was available before 1997. Academic staff, generally, have more autonomy than other members of staff engaged in more regulated employment. Anecdotal evidence suggests that academic staff rarely submit sick notification. Academics who are not teaching are unlikely to be missed in the workplace; they could be working from home or carrying out research. Support staff may be instantly noticed by any absence.

Table A.2.1.

Level of physician certified sickness absence for Year 1997		
Category	Number	Average days lost per employee
Academic	1400	3 = 4200
Support (salaried)	1000	8 = 8000
Support (manual)	200	16 = 3200
Total	2600	15,400 days absence or 5.93 days for each employee

Table A.2.2

Level of physician certified sickness absence for Year ending 23 June 2000		
Category	Number	Average days lost per employee
Academic (excluding part-time hourly paid)	816	2.2 = 1786.4
Research	127	1 = 127
Support (salaried)	922	6.4 = 5900.8
Support (manual)	207	12.6 = 26108.2
Total	2072	10,422.4 days absence or 5.03 days for each employee

The reduction in sickness from 1997 to 2000 is almost offset by the reduction in staff numbers. What cannot be determined from this crude data is whether work-stress has induced or exacerbated sickness and absence from work.

APPENDIX 3

University Logo

Confidential when completed

UNIVERSITY OF EDDINGTON: STAFF HEALTH QUESTIONNAIRE 2000

Dear Colleague

As part of my job as the Health Promotion Adviser, I would like to find out what you as a staff member feel is important in terms of your health and the ways in which you feel it can be both protected and promoted at work.

Please could you help me by completing this questionnaire? It should take only 20 minutes, and return to me by **14 April 2000**. All the information will remain confidential and anonymous. The results will help develop services and activities to promote *your* health as a member of staff. Your contribution is extremely valuable. (*A similar survey was conducted in 1996. I will be using this survey to see if things are better or worse*).

Graham Watkinson
Health Promotion Adviser
Address
University of Eddington
Telephone number and e-mail address of the researcher:

Study No

--	--	--

Please tick the appropriate box

1. What is your position?

Support Staff: a. Admin.
b. Clerical
c. Technical

Manual
Academic

2. Does the University employ you: full time or part-time

3. Tick the box that is relevant to your age in years

18 - 25 26 - 40 41 - 50 51 - 65

--	--	--	--

4. Are you : Male Female

5. In which department do you work? _____

6. Are you interested in healthy lifestyle information and opportunities being promoted at work? Yes No

7. Are there any examples that already exist?

(If so, please describe) _____

8. How much do you think the University values your health?

- a. A lot
- b. Average
- c. Not a lot
- d. Not at all

9. How much time per week do you spend doing work compared to 4 years ago?

Please tick the appropriate box for your average weekly hours worked in 2000

< 20	21 - 30	31 - 40	41 - 50	51 - 60	> 61 hours
<input type="checkbox"/>					

and if you worked here in a similar capacity in or before 1996

< 20	21 - 30	31 - 40	41 - 50	51 - 60	> 61 hours
<input type="checkbox"/>					

10. How much do you enjoy your work?

- a. I enjoy work most of the time
- b. I enjoy work as much as I would expect to
- c. I only occasionally enjoy work
- d. I don't enjoy work; it's a means to an end

10a. Are there any difficulties in performing your job because the job differs from the job description?

Never Sometimes Often Always

11. **What do you think are the main causes of stress at work for you?** Please try and be specific, I have given some examples, please rank them in order, 1 being the most important cause of stress for you at work 15 the least. You do not have to rank all 15! But you may wish to add your own examples.

- a. The workload
- b. The duplication of roles
- c. Lack of clarity of our aims and objectives
- d. The continual demand to change
- e. My work surroundings (building, equipment etc)
- f. Lack of resources
- g. The way decisions are made
- h. Staff relationships
- i. Staff/student relationships
- j. Keeping up to date
- k. Lack of support from managers
- l. Lack of support from peers
- m. General level of communication
- n. Communication needed to do my job
- o. Any others (please state)

12. This question is laid out in a different way to previous questions¹. It is to find out how you perceive stress.

The questions in this scale ask you about your feelings and thoughts during **the last month**. In each case you will be asked how often you felt, or thought, in a certain way. Although some of the questions are similar, there are differences between them and you should treat each one as a separate question. The best approach is to answer each question fairly quickly. That is, don't try to count up the number of times you felt a particular way, but rather indicate the alternative that seems like a reasonable estimate.

For each question choose from the following alternatives:

0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often

- a. In the last month, how often have you been upset because of something that happened unexpectedly?
- b. In the last month, how often have you felt that you were unable to control the important things in your life?
- c. In the last month, how often have you felt nervous and stressed?
- d. In the last month, how often have you dealt with irritating life hassles?
- e. In the last month how often have you felt that you were effectively coping with important changes that were occurring in your life ?
- f. In the last month, how often have you felt confident about your ability to handle your personal problems ?
- g. In the last month, how often have you felt that things were going your way?
- h. In the last month, how often have you found that you could not cope with all the things that you had to do ?

¹ American Sociological Association, 1983. From 'A global measure of perceived stress', *Journal of Health and Social Behaviour*, 24. 385-96. Reproduced with kind permission of the author, Sheldon Cohen and the publishers. This measure is part of *Measures in Health Psychology: A User's Portfolio* written and compiled by Professor Marie Johnson, Dr Stephen Wright and Professor John Weinman. Published by the NFER-NELSON Publishing Company Ltd: Berkshire.

0 = never, 1 = almost never, 2 = sometimes, 3 = fairly often, 4 = very often

i. In the last month, how often have you been able to control irritations in your life?

j. In the last month, how often have you felt that you were on top of things?

k. In the last month, how often have you been angered by things that were outside of your control?

l. In the last month, how often have you found yourself thinking about things that you have to accomplish?

m. In the last month, how often have you been able to control the way you spend your time?

m. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

13. **What do you think could be done to help people cope with stress?**
Please give practical examples; these may be taken from what you do now, from previous jobs or other aspects of your life.

- At an individual level
- At a department or faculty level
- By the University

14. **How important is physical activity to you?**

- Very important
- Important
- Not very important
- Not at all important

15. **How much exercise or physical activity do you take?** Which of the following is true for you? - *Tick one box only*

- a. I do regular exercise that increases my heart rate for at least 20 minutes twice a week or more.
- b. I try to exercise at least once a week
- c. I get my exercise by regular physical activity such as walking to work, cycling, walking the dog etc.
- d. I only take occasional physical activity such as going for a walk
- e. I really don't do any exercise or physical activity

16. **What do you think could be done by the University or local services to help you take more exercise?**

17. **How important is healthy eating to you?**

- a. Very important
- b. Not very important
- c. Not at all important

18. **If you do not use the University catering facilities at work why is that?**

19. **If you use the catering facilities at work, how healthy do you think the food is?** Please tick one of the statements you agree with:

- a. I can always get a healthy meal or snack
- b. I can only sometimes get a healthy option
- c. I can never get what I would consider to be a healthy meal or snack

20. What more do you think could be done to provide healthy food at the University?

21. Do you smoke cigarettes? Yes No

If you answered No to Q 21, please move on to Q 24.

22. If you answered Yes to Q 21, would you be interested in help to give up?

Yes No

23. If you answered Yes to Q 22, which of the following would help?

- a. A smoking Cessation Course run at work at lunch-time/evenings
- b. Individual help from an 'expert'
- c. Just a leaflet and some advice on the phone
- d. Any other (please state)

24. On an average week do you drink more than the recommended levels of alcohol? i.e. Women - up to 14 units of alcohol per week

Men - up to 21 units of alcohol per week

N.B. One unit = a single pub measure of spirits, or half a pint of ordinary strength lager, beer or cider or a small glass of wine.

Please tick the statement, which applies to you:

- a. I do not drink alcohol
- b. I usually drink below or within the recommended limit
- c. I usually drink above the limit (up to 21 units as women, or up to 28 units as a man)
- d. I usually drink considerably more than the limit (over 28 units as a woman, or over 35 units as a man)

**25. Are there any other areas of health, which you are particularly interested
which you feel could be examined by the University?**
e.g. Cancer, Safety, etc.

26. Are you aware that the University is a 'health promoting university'?

Yes No Unsure

If Yes, in what ways have you been aware?

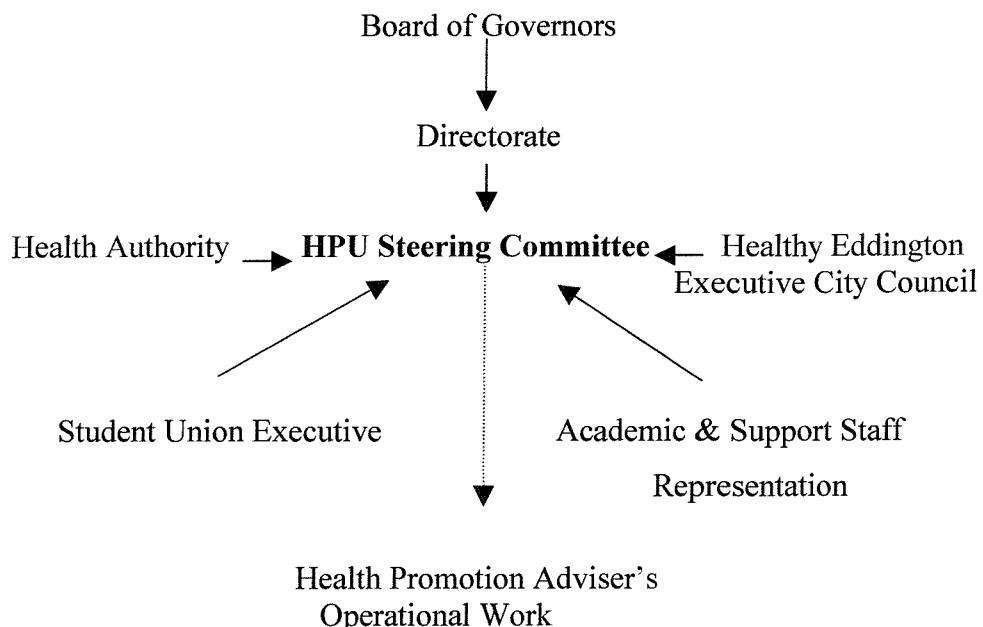
**27. Are you aware of any other health initiatives that the University has
promoted over the past 4 years? If so what were they?**

Any further comments?

Thank you very much for completing this questionnaire. Remember to return it to
Graham Watkinson, Health Promotion Adviser, in the self-addressed envelope
provided.

APPENDIX 4
EDDINGTON HEALTH PROMOTING UNIVERSITY

Steering Committee Structure
1996 - 2000



Position of Members

Director of Health Promotion (Health Authority)*
 Deputy Chief Environmental & Trading Standards Officer (City Council)*
 Head of Healthy Eddington (City Council)
 General Manager (Students' Union)
 Student Advice Centre Co-ordinator (Students' Union)
 Communications Officer (Sabbatical Students' Union Executive)
 Deputy Head of Personnel (University Directorate)*
 Academic Staff (University)*
 Support Staff (University)*
 Chaplain (University)
 Pro Vice-Chancellor (University Directorate) Chair of Steering Group*
 Health Promotion Adviser (The researcher)

* Members interviewed in 1999 to assist in refining the 2000 questionnaire

APPENDIX 5

SAMPLE RANDOMISATION PROCEDURE

Self-adhesive address labels were printed for each member of staff on the payroll with their title and departmental address. Each sheet of labels contained the details of 24 staff (3 x 8 per A4 page) in alphabetical order. These pages amounted to 85 in all, representing 2041 members of staff. To randomise the sample the 85 pages were mixed and then put into four piles, thus 96 staff labels could be seen at any one time. A random number table was then consulted (Clegg, 1990, p.187). This table had values from 01 to 99. As each random number was identified from the chart, so the corresponding label was removed and stuck to an individual envelope. Any numbers greater than 96 were omitted.

Following the removal of a label, the four top sheets of labels were placed to the bottom of their respective piles and the process repeated. This was time consuming but ensured that all staff had an equal opportunity of inclusion in the sample (Parahoo, 1997). This process also eliminated any potential researcher bias on sample selection. Two hundred and forty five respondents were randomly selected (12.004% of staff).

Each of the staff addressed envelopes had the sender's details stamped on the reverse so that if any were unable to be delivered, the internal postal service would return them allowing replacements to be selected.

Each of the randomised addressed envelopes had a questionnaire with a self addressed envelope included for return to the researcher.

APPENDIX 6

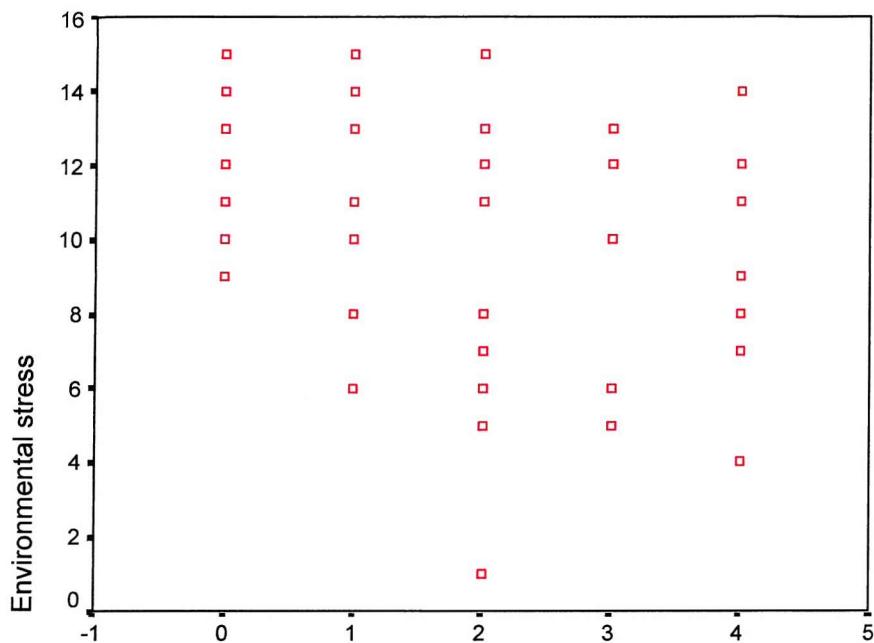
DEPARTMENT AND SECTIONS REPRESENTED IN THE 2000 SURVEY

Department	No of Respondents	Staff Population
Academic Registry	5	37
Accommodation, Catering & Hospitality Services	6	25
Accounting and Management Science	4	49
Architecture	6	23
Art Design and Media	6	104
Biology	2	45
Building and Works Department	1	44
Campus Environment Team	2	58
Catering Services	1	36
Centre for Continuing Education & Professional Development	1	5
Centre for Care and Public Sector Management	0	6
Centre for Education & Continuing Studies	5	23
Centre for Molecular Design	0	2
Centre for New Media Research and Design	0	1
Centre for Project and Quality Management	0	1
Centre for Social Work	0	8
Chemical, Pharmaceutical and Sports Science Technology	0	35
Corporate Planning	1	3
Directorate	3	16
Department of Business & Management	5	53
Department of Civil Engineering	3	32
Department of Information Systems	2	33
Department of Economics	1	49
Department of Electrical and Electronic Engineering	3	55
Department of Geography	2	45
Department of Mechanical & Manufacturing Engineering	1	54
Department of Property resource Management	0	19
Department of Psychology	0	41
Department of Sport & Exercise Science	1	14
English and Creative Literacy Studies	0	9
Faculty Office - Business	0	23
Faculty Office - Environment	0	13
Faculty Office - Humanities & Social Science	2	14
Faculty Office - Science	0	9
Faculty Office - Technology	2	11
Finance (including accountancy, financial services payments, payroll purchasing and supplies)	2	50
Halls of Residence	2	113
Health and Safety Office	0	2
International Support & Recruitment Office	1	7
Industrial Liaison Office	0	1

Departments represented in the 2000 survey continued

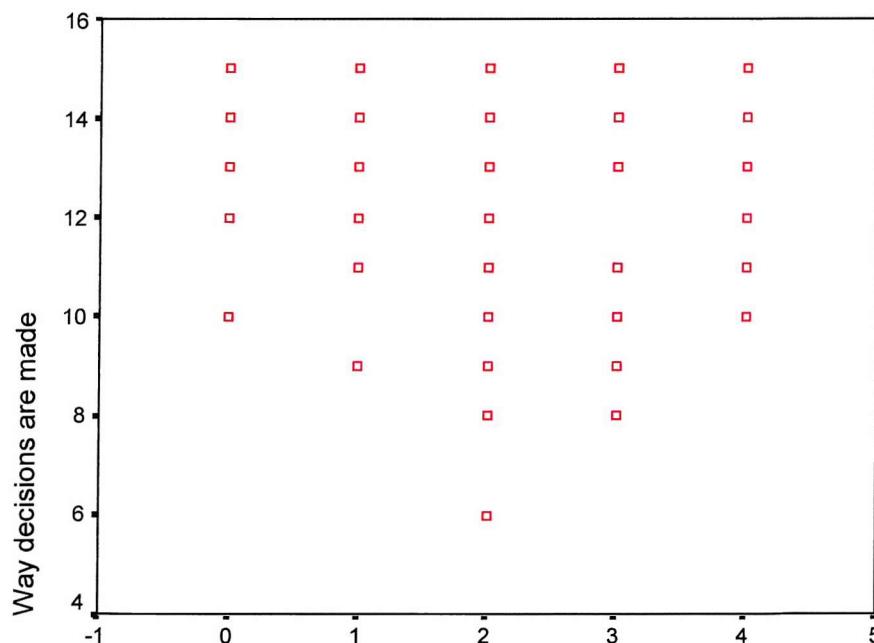
Department	No of Respondents	Staff Population
Information Services Organisation	3	82
Institute of Police and Criminological Studies	0	32
Key Skills Unit	0	5
Land and Construction Management	1	20
Language Centre	0	3
Learning Resource Unit	1	11
Library staff (site of library not identified)	3	98
Life Sciences	0	24
Marketing Department	2	15
Media Development Centre	0	6
Occupational, Safety, Health and Environment Management	0	1
Open Learning Centre	1	7
Partnership Programme	1	5
Personnel Office	1	16
Printing and Photographic Services	0	12
Professional Development Unit	3	8
Research and Development Service	1	13
School of Computer Science and Mathematics	3	57
School of Education, and Continuing Studies	0	25
School of Earth Environment & Physical Sciences	2	43
School of Health and Social Care	1	27
School of Health Studies	3	16
School of Languages and Area Studies	7	80
School of Pharmacy and Biomedical Science	9	80
School of Post Graduate Medicine	0	11
School of Social and Historical Studies	4	52
Space Management Task Group	0	2
Sport and Recreation Department	2	13
Student Services (Student finance, Counselling, Careers, Chaplaincy, Disability, Health Promotion and International Advice)	2	40
Social Science Research Unit	1	7
Specialist Health Courses and support staff (e.g. Radiography)	0	7
Telephone Switchboard	1	10
Transport and Despatch	0	5
University and Community Languages Programme	0	5
University and Community Mediation Service	0	1
University Nursery	0	12
Eddington Centre for Enterprise	0	2
Miscellaneous Research Projects	1	16
Missing	3	
Total	125	2041

APPENDIX 7
THE HIGHEST AND LOWEST STATISTICALLY SIGNIFICANT
SCATTER PLOTS



Difficulties overwhelming

Spearman's rho Correlation $r_s = -.448$ and Coefficient of determination $r^2 = 20.1\%$
 $(p = 0.01)$



Difficulties overwhelming

Spearman's rho Correlation $r_s = -.238$ with Coefficient of determination $r^2 = 5.7\%$
 $(p = 0.05)$

APPENDIX 8

EXAMPLES OF HEALTHY LIFESTYLE INFORMATION AND OPPORTUNITIES PROMOTED AT WORK IDENTIFIED BY THE STAFF

Question 7. Are there any examples of healthy lifestyle information and opportunities being promoted at work (if so please describe).

The numbers in brackets corresponding to the number of times an element was mentioned by staff. Direct quotations are in *italics* followed by the respondent number e.g. (R89).

Health information for maintenance and protection

Health education and promotion literature was cited (4) and health campaign posters (2) with a further four staff giving the example of Meningitis awareness education material. Health and Safety information was mentioned separately (3) as well as free eye tests for computer users (1). One member of staff remembered the drug and substance misuse conference (1) whilst another regularly supported National No Smoking Day with exhibitions on campus every year since 1996.

Physical activity and exercise

Sports activity (1) and the Gym (2) were cited as well as the Bike About Scheme (1) whereby University owned cycles may be taken from one site compound to another part of the campus. Two staff requested that more cycle racks be installed, as there seems to be under-capacity during term time.

Health policies

Seven staff mentioned the Universities No Smoking Policy and (2) the Alcohol Policy and guidelines on Drug and Substance misuse (1). A senior member of staff commented that:

Ruling out alcohol consumption at lunchtimes has to be good for us at work.
(R103)

Mental and emotional well-being

Lunchtime relaxation classes were referred to (2) and stress management classes (1) and the Student Counselling Service (1).

Appendix 8 continued

Healthy Eating

Healthy food from University outlets (1) with more healthy options (1) and the supply of chilled drinking water in staff rooms (1) were all mentioned. A member of support staff commented that:

....the fizzy drink vending machines ought to be banned, as they are neither healthy nor environmentally friendly due to litter. (R98)

APPENDIX 9

EXAMPLES OF HEALTH ISSUES STAFF ARE INTERESTED IN BEING PROMOTED AT WORK

Question 25. Are there any other areas of health which you are particularly interested in, which you feel could be examined by the University?

Health checks – staying healthy, disease prevention and health education

Twenty-two respondents (17.6%) asked for more information on staying healthy.

Regular annual free medical checks (5) and health screening (6) for those staff who work in developing and tropical countries. One (a researcher) gave the following example:

Screening for amoebae, bilharzias and worms etc. (R122).

More information geared around women's health generally was requested (7) with provision of a well woman clinic providing information on breast cancer, the menopause specifically with how it affects everyday life. One female respondent commented that:

... the list would be too long and very much geared to middle-aged women.
(R73).

Two pregnant respondents felt that some line managers needed to acknowledge that pregnant staff require rest breaks at work especially as they near term.

Men's health received fewer responses than women (4), male cancers (testicular and prostate) and cholesterol screening forming the main findings. Although one respondent asked for:

... information on any illness that there has yet to be found a cure (R97).

Comparing the University with previous experience or knowledge of health, health care in the private sector was commented on by two respondents, this statement sums up these responses:

Most of my peers work in private industry and are astonished at the lack of care in the University. Schemes like BUPA, which they have as managers, are striking (R85).

Appendix 9 continued

There were no comparisons made by staff with health promotion or service provision in other Universities.

General health and safety at work

Twenty-one respondents (16.8%) made comments, which mainly focused on health factors linked to the use of computers. Eyesight tests and concerns about repetitive strain injury (RSI) (9) and office ergonomics specifically effect on posture (6). Healthy building environments including workshops and laboratories (3) were also cited. An example of exposure to hazardous substances was made:

...dust in one of the buildings (named) which could be a problem to asthmatics, (R35).

In addition, one respondent suggested that there seemed to be:

Continual obstructions left in walkways, which could cause a serious accident (R91).

Stress related issues

Eleven staff (8.8%) referred to work stress with frustration and anger causing them personal problems. One commented:

Stress is the main thing. So much psychobabble is directed towards negative ends – a clubbing awaits the next buffoon to use the word 'proactive' (R83).

Another suggested that '*a policy on stress might be useful*' (R111) and that '*intellectual health might be better supported*' (R79).

In addition another stated that as an organisation:

We need details of staff health problems, so the full extent of the problem is known' (R74).

General comments suggested that work related stress should be given 'proper attention' and that time management and self-assertion would be part of this.

Appendix 9 continued

Lifestyle and social issues

Acknowledging the risk of obesity due to sedentary jobs by improving physical activity and general fitness concerned five respondents. Although social issues were also commented on, for example;

Changing societies values around pedestrian's – in a city campus the car predominates and one is often forced to run across busy roads, (R77).

Another asked if the University could do more on the social aspects of health;

To make health more complete from a biopsychosocial definition (R64).

Healthier eating options in a reopened staff restaurant also featured. One respondent asked for more information on the current increase in Creutzfelt-Jakob Disease. Two respondents suggested that the University should examine the use of complementary therapy suggesting that 'colonic hydrotherapy and reflexology' would form a useful starting point.

A note of pragmatic scepticism was also raised by a respondent who suggested that:

If the University was sufficiently financed to purchase resources then it could take an interest in staff health generally (R51).

APPENDIX 10

WORK ENJOYMENT

**Table A 4.1 How much do you enjoy your work?
Year 2000 (with age)**

Year 2000	Age					Total
	18 to 25	26 to 40	41- 50	51 to 65	66>	
Enjoy work						
Most of the time	2	19	17	31	1	70
As much as I would expect to	1	12	7	12		32
Occasionally		7	6	5		18
Not at all		2		3		5
Total	3	40	30	51	1	125

Table A.4.1 reveals that if we exclude staff aged 25 years and under, staff enjoying their work *as much as they would expect to* or *most of the time* increases with age. All of the 18 to 25 year staff fit into this group. Those aged 26 to 40, 41 to 50, and 51 to 65 enjoying their work *as much as they would expect to* or *most of the time* 77.5%, 80% and 88% respectively. Staff that only gained *occasional* or *no enjoyment* with work, was seen to decrease with age [26 to 40 (22.5%), 41 to 50 (20%) and 51 to 65 (15.6%)].

The cross tabulation below (Table A.4.2) gives a more detailed analysis demonstrating staff position and enjoyment of work for the year 2000.

Appendix 10 continued

Table A.4.2 Enjoyment of work, Year 2000. Cross tabulation with staff position.

Position	Year 2000	Most of the time	As much as I would expect to	Occasionally	Not at all	Total & %
Academic	Count	31	17	7	1	56
	% of Position	55.3%	30.3%	12.5%	1.8%	44.8%
Admin	Count	21	12	7	3	43
	% of Position	48.8%	27.9%	16.3%	6.9%	34.4%
Clerical	Count	6				6
	% of Position	100%				4.8%
Manual	Count	1	1	1		3
	% of Position	33.3%	33.3%	33.3%		2.4%
Technical	Count	10	2	3	1	16
	% of Position	62.5%	12.5%	18.5%	6.25%	12.8%
Missing	Count	1				1
	% of Total	.8%				.8%
Total	Count	70	32	18	5	125
	% of Total	56.0%	25.6%	14.4%	4.0%	100.0%

APPENDIX 11

JOB FIT DIFFICULTIES

Table A 4.3 Difficulties performing job because the job differs from the job description - Cross-tabulation with position. Year 2000.

Position	Year 2000	Never	Sometimes	Often	Always	Missing	Total & %
Academic	Count	11	27	13	3	2	56
	% of Position	19.6%	48.2%	23.2%	5.3%	3.5%	44.8%
Admin	Count	6	30	5	1	1	43
	% of Position	13.9%	69.7%	11.6%	2.3%	2.3%	34.4%
Clerical	Count	2	4				6
	% of Position	33.3%	66.6%				4.8%
Manual	Count		2	1			3
	% of Position		66.6%	33.3%			2.4%
Technical	Count	2	10	3	1		16
	% of Position	12.5%	62.5%	18.7%	6.25%		12.8%
Total	Count	22	73	22	5	3	125
	% of Total	17.6%	58.4%	17.6%	4.0%	2.4%	100.0 %

Table A 4.3 shows the count and percentage of staff by position in the table with the right hand column showing the total sample percentage to remind us of the under-representation of some groups.

APPENDIX 12
WORK STRESS TABLES 1 TO 15

WORK STRESS TABLE 1

Question 11 a

THE WORKLOAD. **YEAR 2000 RANK 1ST**
 (1996 Rank 1st as 'The sheer workload')
The workload stress with position and employment full or part-time Year 2000

The workload stress score	Position of Staff	Full-time	Part-time	Total
3.00	Academic	1		1
6.00	Academic	1		1
	Admin	1		1
7.00	Academic		1	1
	Admin	1		1
8.00	Academic	1		1
9.00	Manual	1		1
10.00	Academic	1		1
	Manual	1		1
	Technical	1		1
11.00	Academic	1		1
	Admin		1	1
	Technical	2		2
12.00	Academic	5	1	6
	Admin	3	1	4
	Technical	1		1
13.00	Academic	5		5
	Admin	1	1	2
14.00	Academic	6	3	9
	Admin	4		4
	Technical	2		2
15.00	Academic	13	2	15
	Admin	12	1	13
	Clerical	1		1
	Technical	2		2
	Total	67	11	78
Mean Score 13.1 (Range 3 to 15)	SD = 2.55	63%	57%	63%

Appendix 12 continued
WORK STRESS TABLE 2

Question 11 g

THE WAY DECISIONS ARE MADE. YEAR 2000 RANK 2ND
 (Year 1996 Rank 3rd)

The way decisions are made with position and employment full or part-time

Year 2000

The way decisions are made stress score	Position of staff	Full-time	Part-time	Total
6.00	Academic		1	1
8.00	Academic	2		2
	Admin	1		1
9.00	Admin	1	1	2
	Clerical	1		1
	Technical	1		1
10.00	Academic	5		5
	Admin	2		2
	Clerical	1		1
11.00	Academic	4	1	5
	Admin	2		2
	Technical	1		1
12.00	Academic	6		6
	Admin	2		2
	Manual	1		1
	Technical	2		2
13.00	Academic	7	4	11
	Admin	3	3	6
	Manual	1		1
	Technical	2		2
14.00	Academic	5	1	6
	Admin	5	1	6
	Clerical	1		1
	Manual	1		1
	Technical	2		2
15.00	Academic	8	1	9
	Technical	3		3
	Total	70	13	83
Mean Score 12.4 (Range 6 to 15)	SD = 2.03	66%	68%	66.4%

Appendix 12 continued

WORK STRESS TABLE 3

Question 11 m

GENERAL LEVEL OF COMMUNICATION. YEAR 2000 RANK 3RD

(This variable was not included in the 1996 survey)

General level of communication with position and employment full or part-time

Year 2000

General level of Communication stress score	Position of staff	Full-time	Part-time	Total
5.00	Academic	2		2
6.00	Academic	2	1	3
7.00	Academic	1		1
	Admin	1		1
8.00	Academic	1		1
9.00	Academic	2	1	3
	Admin	1		1
10.00	Academic	8		8
	Admin	3		3
11.00	Academic	1	1	2
	Admin	3		3
	Technical	4		4
12.00	Academic	3	1	4
	Technical	2		2
13.00	Academic	3		3
	Admin	3		3
	Clerical	2		2
	Technical	2		2
14.00	Academic	3	1	4
	Admin	7		7
	Clerical	1		1
	Technical	2		2
15.00	Admin	3		3
	Manual	2		2
	Total	62	5	67
Mean Score 11.5 (Range 5 to 15)	SD = 2.62	(59.04%)	(26%)	53.6%

Appendix 12 continued

WORK STRESS TABLE 4

Question 11 f

LACK OF RESOURCES YEAR 2000 RANK 4TH
 (1996 Rank 2nd)

Lack of resources with position and employment full or part-time Year 2000)

Lack of resources stress score	Position of staff	Full-time	Part-time	Total
1.00	Admin	1		1
3.00	Admin	1		1
6.00	Academic	3		3
	Clerical	1		1
7.00	Academic		1	1
	Admin	1		1
8.00	Academic	2		2
	Admin	1		1
9.00	Academic	2	1	3
10.00	Academic	1	2	3
	Technical	1		1
11.00	Academic	6		6
12.00	Academic		2	2
	Admin	3		3
	Manual	1		1
13.00	Academic	6		6
	Admin	2		2
14.00	Academic	7	1	8
	Admin	5	1	6
	Technical	1		1
15.00	Academic	4	1	5
	Admin	1		1
	Clerical		1	1
	Technical	2		2
	Total	53	10	63
Mean Score 11.7 (Range 1 to 15)	SD = 3.21	(50.47%)	(52.6%)	50.4%

Appendix 12 continued
WORK STRESS TABLE 5

Question 11 d

CONTINUAL DEMAND TO CHANGE YEAR 2000 RANK 5TH
(1996 Rank 6th)

Continual demand to change with position and employment full or part-time

Year 2000

Continual demand to change stress score	Position of staff	Full-time	Part-time	Total
2.00	Academic	1		1
	Admin	2		2
4.00	Academic	1	1	2
6.00	Academic	3		3
7.00	Admin	2		2
	Technical	1		1
8.00	Academic	2		2
	Admin	1		1
9.00	Academic		2	2
	Technical	1		1
10.00	Academic	1	1	2
	Admin	2		2
11.00	Academic	4		4
12.00	Academic	1		1
	Admin		1	1
13.00	Academic	2		2
	Technical	2		2
14.00	Academic	9		9
	Admin	5		5
	Clerical	1	1	2
15.00	Academic	6	1	7
	Admin	4	1	5
	Clerical	1		1
	Technical	1		1
	Total	53	8	61
Mean Score 11.4 (Range 2 to 15)	SD = 3.83	(50.47%)	(42.1%)	48.8%

Appendix 12 continued
WORK STRESS TABLE 6

Question 11 c

LACK OF CLARITY IN AIMS AND OBJECTIVES YEAR 2000 RANK 6TH
(1996 Rank 8th)

Lack of clarity of our aims and objectives with position and employment full or part-time Year 2000

Lack of clarity of our aims and objectives stress score	Position of staff	Full-time	Part-time	Total
4.00	Academic	1		1
	Admin	1		1
5.00	Academic		1	1
	Academic	4		4
7.00	Academic	2	1	3
	Clerical	1		1
8.00	Academic	4	2	6
	Admin	1		1
9.00	Technical	1		1
	Academic	2		2
10.00	Academic	5		5
	Admin	1	1	2
11.00	Technical	1		1
	Academic	2		2
12.00	Admin	2		2
	Academic	5		5
13.00	Admin	1		1
	Academic	5		5
14.00	Admin	2		2
	Technical	2		2
15.00	Academic	2	1	3
	Admin	1	1	2
	Manual	1		1
	Technical	2		2
Mean Score 11.5 (Range 4 to 15)	Academic	3	1	4
	Admin	3		3
	Technical	3		3
	Total	49	8	57
	SD = 3.07	46.6%	42.1%	45.6%

Appendix 12 continued
WORK STRESS TABLE 7

Question 11 k

LACK OF SUPPORT FROM MANAGERS YEAR 2000 RANK 7TH
 (1996 Rank 5th)

Lack of support from managers with position and employment full or part-time
Year 2000

Lack of support from managers stress score	Position of staff	Full-time	Part-time	Total
2.00	Admin	1		1
5.00	Academic	1		1
	Clerical	1		1
6.00	Academic	1		1
7.00	Academic	1		1
8.00	Academic	1		1
9.00	Academic	2		2
	Admin	1		1
10.00	Academic	1		1
	Admin	3		3
	Technical	1		1
11.00	Academic	4	1	5
	Admin	1	1	2
12.00	Academic	1		1
	Admin	1		1
	Technical	3		3
13.00	Academic	1		1
	Admin	1		1
	Manual	1		1
14.00	Academic	5	2	7
	Admin	5		5
	Manual	1		1
	Technical	2		2
15.00	Academic	3		3
	Admin	1	1	2
	Clerical	1	1	2
	Technical	2		2
	Total	47	6	53
Mean Score 11.9	SD = 3.01	44.76%	31.5%	42.4%
(Range 2 to 15)				

Appendix 12 continued

WORK STRESS TABLE 8

Question 11 j

KEEPING UP TO DATE YEAR 2000 RANK 8TH
 (1996 Rank 9th)

Keeping up to date with position and employment full or part-time Year 2000

Keeping up to date Stress score	Position	Full-time	Part-time	Total
3.00	Academic	3		3
5.00	Academic	1		1
	Admin	1		1
6.00	Academic		1	1
7.00	Academic	1		1
	Admin		1	1
8.00	Academic	1	1	2
	Admin	1		1
9.00	Admin	2		2
10.00	Admin	1		1
	Technical	1		1
11.00	Academic	1	2	3
	Admin	3		3
	Manual	1		1
12.00	Academic	6	1	7
	Admin	2		2
	Clerical	1		1
13.00	Academic	3	1	4
	Admin	5	1	6
	Technical	1		1
14.00	Academic	1	1	2
	Admin	2		2
15.00	Academic	1		1
	Admin	4	2	6
	Total	43	11	54
Mean Score 11.1 (Range 3 to 15)	SD = 3.25	40.95%	57.8%	51.4%

Appendix 12 continued
WORK STRESS TABLE 9

Question 11 n.

COMMUNICATION NEEDED TO DO MY JOB YEAR 2000 RANK 9TH
 (This variable was not included in the 1996 survey)

Communication needed to do my job with position and employment full or part-time Year 2000

Communication needed to do my job stress score	Position of staff	Full-time	Part-time	Total
2.00	Academic	1		1
3.00	Academic	1		1
5.00	Academic	2		2
6.00	Academic	1	1	2
7.00	Academic	2		2
	Admin	1		1
8.00	Academic	1	1	2
	Admin	1		1
9.00	Academic	5		5
	Admin	2		2
10.00	Academic	1	1	2
	Manual	1		1
11.00	Academic	1		1
	Admin	3		3
	Clerical	1		1
12.00	Academic	2		2
	Admin	2		2
	Manual	1		1
	Technical	2		2
13.00	Academic	3		3
	Admin	2		2
	Clerical	1	1	2
	Technical	2		2
14.00	Academic	1		1
	Admin	1	1	2
	Technical	2		2
15.00	Academic	1		1
	Admin	3		3
	Total	47	5	52
Mean Score 10.6 (Range 2 to 15)	SD = 3.18	44.7%	26.3%	41.6%

Appendix 12 continued
WORK STRESS TABLE 10

Question 11 e.

MY WORK SURROUNDINGS YEAR 2000 RANK 10TH
 (Year 1996 rank 4th)

**My work surroundings, building and equipment with position and employment
 full or part-time Year 2000**

My work surroundings stress score	Position of staff	Full-time	Part-time	Total
1.00	Admin	1		1
4.00	Academic	1		1
	Admin	1		1
5.00	Academic	1		1
	Admin	1		1
6.00	Academic	5		5
	Admin	1		1
7.00	Academic	2		2
	Clerical	1		1
8.00	Academic		2	2
	Admin	1		1
	Technical	2		2
9.00	Academic		1	1
	Technical	2		2
10.00	Academic	1	1	2
	Admin		1	1
11.00	Academic	3	1	4
	Admin	1		1
12.00	Academic	4		4
	Admin	2		2
13.00	Academic	2	1	3
	Admin	2		2
14.00	Admin	4		4
	Technical	1		1
15.00	Admin	3		3
	Manual	1		1
	Technical	2		2
	Total	45	7	52
Mean Score 10.1	SD = 3.58	42.8%	36.8%	41.6%
(Range 1 to 15)				

Appendix 12 continued

WORK STRESS TABLE 11

Question 11 o.

OTHER STRESS YEAR 2000 RANK 11TH

(Year 1996 item not ranked)

Any other stressors with position and employment full or part-time Year 2000(Respondents were free to state their own stressors)

Other stress ranking stress scores	Position of staff	Full-time	Part-time	Total
1.00	Admin	1		1
5.00	Admin	1		1
6.00	Academic	1		1
8.00	Academic	3		3
	Manual	1		1
9.00	Academic	1		1
	Admin	1		1
10.00	Academic	1		1
	Admin	1		1
11.00	Academic	2		2
	Manual	1		1
	Technical	1		1
12.00	Academic	1		1
	Admin	2		2
13.00	Academic	1		1
	Technical	3		3
14.00	Academic	1	1	2
	Admin	1	1	2
	Technical	1		1
15.00	Academic	8	3	11
	Admin	3		3
	Technical	1		1
	Total	37	5	42
Mean Score 12.1	SD = 3.34	35.2%	26.3%	33.6%
(Range 1 to 15)				

Appendix 12 continued

WORK STRESS TABLE 12

Question 11 b.

DUPLICATION OF ROLES YEAR 2000 RANK 12TH
 (Year 1996 Rank 7th)

The duplication of roles (the duplicity of roles 1996) with position and employment full or part-time Year 2000

Duplication of roles stress score	Position of staff	Full-time	Part-time	Total
5.00	Admin	1		1
6.00	Academic	2		2
	Admin	1		1
7.00	Academic	2		2
9.00	Academic	4		4
	Admin	1		1
10.00	Academic	5		5
	Admin	1		1
	Clerical	1		1
11.00	Academic	2		2
	Admin	1		1
	Clerical	2		2
12.00	Academic	2		2
13.00	Academic	2		2
	Admin	4		4
14.00	Academic		1	1
	Admin	3		3
15.00	Academic	2	3	5
	Admin	2		2
	Total	38	4	42
Mean Score 11.2	SD = 2.89	36.1%	21%	33.6%
(Range 5 to 15)				

Appendix 12 continued

WORK STRESS TABLE 13

Question 11 h.

STAFF RELATIONSHIP YEAR 2000 RANK 13TH
 (1996 rank 10th)

Staff relationships with position and employment full or part-time Year 2000

Staff relationship stress score	Position of staff	Full-time	Part-time	Total
2.00	Academic	1		1
3.00	Academic	2		2
	Admin	1		1
	Clerical	1		1
4.00	Academic		1	1
5.00	Academic	1		1
6.00	Academic	2		2
	Admin	2		2
8.00	Academic	2		2
	Admin	1		1
	Technical	1		1
9.00	Academic	1		1
10.00	Academic	1		1
	Admin	1		1
11.00	Academic	1		1
	Admin	2		2
	Manual	1		1
	Technical	3		3
12.00	Academic		2	2
	Admin	3		3
	Clerical	1		1
	Technical	1		1
13.00	Academic	3	1	4
	Admin	1		1
	Manual	1		1
	Technical	1		1
14.00	Academic	2		2
	Admin	2		2
15.00	Admin	1	1	2
	Total	40	5	45
Mean Score 9.9 (Range 2 to 15)	SD = 3.73	38.1%	26%	36%

Appendix 12 continued

WORK STRESS TABLE 14

Question 11.

LACK OF SUPPORT FROM PEERS YEAR 2000 RANK 14TH
 (1996 rank 11th)

Lack of support from peers with position and employment full or part-time Year 2000

Lack of support from peers stress score	Position of staff	Full-time	Part-time	Total
3.00	Academic	2		2
	Admin	1		1
4.00	Academic	5		5
	Clerical	1		1
6.00	Academic	1		1
	Technical	1		1
7.00	Admin		1	1
8.00	Academic	1		1
	Admin		1	1
9.00	Academic	1		1
	Academic		1	1
10.00	Admin		1	1
12.00	Admin	4		4
	Clerical	1		1
13.00	Manual	1		1
	Academic	1		1
14.00	Admin	2		2
	Academic	1	1	2
	Admin	3		3
	Total	25	3	28
Mean Score 9.1 (Range 3 to 14)	SD = 4.30	23.8%	15.8%	22.4%

Appendix 12 continued

WORK STRESS TABLE 15

Question 11 i.

**STAFF STUDENT RELATIONSHIPS YEAR 2000 RANK 15TH
(1996 rank 12th)**

Staff student relationships with position and employment full or part-time Year 2000

Staff Student relationship stress score	Position of staff	Full-time	Part-time	Total
1.00	Academic	2		2
2.00	Academic	4		4
4.00	Academic	2		2
	Admin	1		1
5.00	Academic	1		1
	Admin	1		1
6.00	Academic	1		1
	Admin	1		1
7.00	Admin	1		1
8.00	Academic	1		1
9.00	Admin	1		1
11.00	Academic	1		1
	Admin	1		1
12.00	Academic	1	1	2
	Admin	1		1
	Technical	1		1
13.00	Academic		1	1
	Technical	1		1
14.00	Academic		1	1
	Admin	1	1	2
15.00	Clerical	1		1
	Total	24	4	28
Mean Score 7.9 (Range 1 to 15)	<i>SD = 4.74</i>	22.8%	21%	22.4%

APPENDIX 13
PERCEIVED STRESS TABLE 1
Question 12.l.

All the frequency value tables in the main text for Perceived Stress Scores show that $n = 125$, for example Table 4.20b. Because a male staff member omitted his position, when we examine staff position $n = 124$ as in the cross tabulation PSS Tables below.

Table PSS 1 Thinking about things that have to be accomplished. Gender and Position Cross-tabulation

		<i>Thinking about things that have to be accomplished</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic			3	11	21	35
	Admin	1		1	2	6	10
	Clerical					1	1
	Manual				3		3
	Technical	2		2	3	5	12
	Total	3		6	19	33	61
Female	Academic	1		3	4	13	21
	Admin	1	1	8	10	13	33
	Clerical			3	2		5
	Technical	1			2	1	4
	Total	3	1	14	18	27	63

Appendix 13 continued

PERCEIVED STRESS TABLE 2

Question 12.k.

Table PSS 2 Angered by things outside of my control. Gender and Position Cross-tabulation

		<i>Angered by things outside of my control</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	4	5	10	8	8	35
	Admin		1	5	2	2	10
	Clerical				1		1
	Manual			1		2	3
	Technical	1	1	6	1	3	12
	Total	5	7	22	12	15	61
Female	Academic		5	5	8	3	21
	Admin		2	21	7	3	33
	Clerical			2	1	2	5
	Technical			2	1	1	4
	Total		7	30	17	9	63

PERCEIVED STRESS TABLE 3

Question 12.c.

Table PSS 3 Nervous and stressed. Gender and Position Cross-tabulation

		<i>Nervous and stressed</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	6	6	11	7	5	35
	Admin	2	3	4	1		10
	Clerical	1					1
	Manual		1		1	1	3
	Technical	1	1	5	3	2	12
	Total	10	11	20	12	8	61
Female	Academic	1	3	5	6	6	21
	Admin	1	9	17	4	2	33
	Clerical			4	1		5
	Technical		1	2	1		4
	Total	2	13	28	12	8	63

Appendix 13 continued

PERCEIVED STRESS TABLE 4

Question 12.h.

Table PSS 4 Not coping with things that I have to do. Gender and Position Cross-tabulation

		<i>Not coping with things that I have to do</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	7	5	8	10	5	35
	Admin	3	2	3	1	1	10
	Clerical	1					1
	Manual			1	2		3
	Technical	2	3	2	2	3	12
	Total	13	10	14	15	9	61
Female	Academic	2	6	4	4	5	21
	Admin		10	15	4	4	33
	Clerical	1	2		1	1	5
	Technical		1	3			4
	Total	2	18	24	9	10	63

PERCEIVED STRESS TABLE 5

Question 12.b.

Table PSS 5 Felt unable to control important things in life. Gender and Position Cross-tabulation

		<i>Felt unable to control important things in life</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	6	7	7	10	5	35
	Admin	3	3	4			10
	Clerical	1					1
	Manual	3					3
	Technical	3	4	1	1	3	12
	Total	16	14	12	11	8	61
Female	Academic	1	8	5	3	4	21
	Admin	5	7	13	5	3	33
	Clerical	1	2	1	1		5
	Technical		3	1			4
	Total	7	20	20	9	7	63

Appendix 13 continued

PERCEIVED STRESS TABLE 6

Question 12.a.

Table PSS 6 Unexpectedly upset. Gender and Position Cross-tabulation

		<i>Unexpectedly upset</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	4	5	13	7	6	35
	Admin	3	2	4	1		10
	Clerical	1					1
	Manual	1	1	1			3
	Technical	3	3	4	1	1	12
	Total	12	11	22	9	7	61
Female	Academic	4	4	6	4	3	21
	Admin	2	15	12	3	1	33
	Clerical		2	3			5
	Technical	1	1	2			4
	Total	7	22	23	7	4	63

PERCEIVED STRESS TABLE 7

Question 12.n.

Table PSS 7 Difficulties overwhelming. Gender and Position Cross-tabulation

		<i>Difficulties overwhelming</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	4	9	10	6	6	35
	Admin	4	2	3	1		10
	Clerical	1					1
	Manual		2			1	3
	Technical	6	2	2		2	12
	Total	15	15	15	7	9	61
Female	Academic	6	3	5	4	3	21
	Admin	7	9	9	5	3	33
	Clerical		1	3		1	5
	Technical		1	3			4
	Total	13	14	20	9	7	63

Appendix 13 continued

PERCEIVED STRESS TABLE 8

Question 12.g.

Table PSS 8 Things were going my way. Gender and Position Cross-tabulation

		<i>Things were going my way</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic	2	6	10	14	3	35
	Admin		1	2	1	6	10
	Clerical					1	1
	Manual			3			3
	Technical	3	1	2	6		12
	Total	5	8	17	21	10	61
Female	Academic		2	12	6	1	21
	Admin	2	4	14	11	2	33
	Clerical	1		3	1		5
	Technical			3		1	4
	Total	3	6	32	18	4	63

PERCEIVED STRESS TABLE 9

Question 12.m.

Table PSS 9 Able to control the way I spend time. Gender and Position Cross-tabulation

		<i>Able to control the way I spend time</i>					Total
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	
Male	Academic		5	12	11	7	35
	Admin			4	2	4	10
	Clerical				1		1
	Manual				2	1	3
	Technical	1	1	1	6	3	12
	Total	1	6	17	22	15	61
Female	Academic	1	5	7	8		21
	Admin	3	2	14	11	3	33
	Clerical		1	2	2		5
	Technical		2		1	1	4
	Total	4	10	23	22	4	63

Appendix 13 continued

PERCEIVED STRESS TABLE 10

Question 12.d.

Table PSS 10 Frequency in dealing with irritating life hassles. Gender and Position Cross-tabulation

		<i>Frequency in dealing with irritating life hassles</i>					
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	Total
Male	Academic	6	4	9	8	8	35
	Admin		3	2	4		10
	Clerical		1				1
	Manual			1	2		3
	Technical	1		6	4	1	12
	Total	7	8	18	18	9	61
Female	Academic			5	6	10	21
	Admin		2	14	10	7	33
	Clerical		1	1	2	1	5
	Technical			3		1	4
	Total		3	23	18	19	63

PERCEIVED STRESS TABLE 11

Question 12.j.

Table PSS 11 I feel on-top of things. Gender and Position Cross-tabulation

		<i>I feel on-top of things</i>				
Gender	Position	Almost never	Sometimes	Fairly often	Very often	Total
Male	Academic	2	16	15	2	35
	Admin		3	1	6	10
	Clerical				1	1
	Manual			3		3
	Technical	1	4	5	2	12
	Total	3	23	24	11	61
Female	Academic	2	7	11	1	21
	Admin	5	11	13	4	33
	Clerical	1	3	1		5
	Technical			3	1	4
	Total	8	21	28	6	63

No staff members felt that they were *never* on top of things, so this column has not been included in the table above.

Appendix 13 continued

PERCEIVED STRESS TABLE 12

Question 12.e.

Table PSS 12 Effectively coping with change. Gender and Position Cross-tabulation

		<i>Effectively coping with change</i>					
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	Total
Male	Academic	3	11		18	3	35
	Admin	1	2		3	4	10
	Clerical					1	1
	Manual	1				2	3
	Technical	1	1	4	2	4	12
	Total	1	6	17	23	14	61
Female	Academic	3	6	8		4	21
	Admin	2	11	17		3	33
	Clerical	1	4				5
	Technical				2	2	4
	Total		6	21	27	9	63

PERCEIVED STRESS TABLE 13

Question 12.i.

Table PSS 13 Able to control irritations in your life. Gender and Position Cross-tabulation

		<i>Able to control irritations in your life</i>					
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	Total
Male	Academic	4	9	15		7	35
	Admin		3	2		5	10
	Clerical					1	1
	Manual				2	1	3
	Technical	2		4	4	2	12
	Total	2	4	16	23	16	61
Female	Academic	2	10	8		1	21
	Admin	2	14	13		4	33
	Clerical		2	3			5
	Technical			1	2	1	4
	Total	4	27	26		6	63

Appendix 13 continued

PERCEIVED STRESS TABLE 14

Question 12.f.

Table PSS 14 Confident in ability handling personal problems Gender and Position Cross-tabulation

		<i>Confident in ability handling personal problems</i>					
Gender	Position	Never	Almost never	Sometimes	Fairly often	Very often	Total
Male	Academic			6	18	11	35
	Admin	1	2		1	6	10
	Clerical					1	1
	Manual	1				2	3
	Technical	1	1	2	5	3	12
	Total	2	2	10	24	23	61
Female	Academic		1	4	11	5	21
	Admin		3	13	9	8	33
	Clerical			3	1	1	5
	Technical				3	1	4
	Total		4	20	24	15	63

APPENDIX 14
LIFESTYLE
PHYSICAL ACTIVITY TABLE 1

Question 14.

**Importance of Physical Activity by Position and Gender Cross-tabulation Year
2000**

Gender	Position	Very important	Important	Not very important	Not at all important	Total
Male	Academic	8	24	3		35
	Admin	4	6			10
	Clerical		1			1
	Manual	1	1	1		3
	Technical	2	5	5		12
	Male Tot	16	37	9		62
Female	Academic	5	10	6		21
	Admin	10	19	3	1	33
	Clerical	1	4			5
	Technical	1	3			4
	Female Tot	17	36	9	1	63
	Grand Total	33	73	18	1	125

Appendix 14 Continued

LIFESTYLE

PHYSICAL ACTIVITY TABLE 2

Question 15.

How much Exercise and Physical Activity taken by Gender and Position Cross-tabulation Year 2000

Gender	Position	Regular exercise	Once a week	Walk to work	Occasional exercise only	Rarely exercise	Total
Male	Academic	14	7	9	5		35
	Admin	5	1	4			10
	Clerical	1					1
	Manual	1		1	1		3
	Technical	4	2	3	1	2	12
	Male Total & %	25 (40%)	11 (17.7%)	17 (27%)	7 (11.3%)	2 (3.2%)	62
Female	Academic	8	3	8	2		21
	Admin	9	7	15	1	1	33
	Clerical	3	1	1			5
	Technical	2		1	1		4
	Female Total & %	22 (34.9%)	11 (17.4%)	25 (39.6%)	4 (6.4%)	1 (1.6%)	63
	Grand total	47	22	42	11	3	125
	%Year 2000	37.6	17.6	33.6	8.8	2.4	100%

Appendix 14 Continued

LIFESTYLE

HEALTHY EATING TABLE 1

Question 17.

Importance of healthy eating by Gender and Position Cross-tabulation Year 2000

Gender	Position	Very important	Not very important	Not at all important	Total
Male	Academic	30	5		35
	Admin	9	1		10
	Clerical	1			1
	Manual	1	2		3
	Technical	8	3	1	12
	Total	49	12	1	62
Female	Academic	20	1		21
	Admin	27	6		33
	Clerical	5			5
	Technical	3	1		4
	Total	55	8		63
	Grand Total	104	20	1	125

Appendix 14 Continued

**LIFESTYLE
HEALTHY EATING TABLE 2**

Question 17.

Importance of healthy eating by Age and Position Year 2000 Cross-tabulation

Age	Position	Very important	Not very important	Not at all important	Total	Age group % of healthy eating = very important
18 to 25	Admin	1			1	66%
	Clerical	1			1	
	Technical		1		1	
26 to 40	Academic	9			9	76%
	Admin	14	6		20	
	Clerical	2			2	
	Technical	7	1		8	
41 to 50	Academic	13	4		17	83.3%
	Admin	9			9	
	Manual	1	1		2	
	Technical	2			2	
51 to 65	Academic	27	2		29	86.5%
	Admin	12	1		13	
	Clerical	3			3	
	Manual		1		1	
	Technical	2	2	1	5	
>66	Academic	1			1	
Grand Total		104	20	1	125	

Appendix 14 Continued

LIFESTYLE

HEALTHY EATING TABLE 3

Question 19.

If you use the catering facilities at work, how healthy do you think the food is?
Cross-tabulation Year 2000 by Position

Position	Always healthy	Sometimes healthy	Never healthy options	Position % using	Not used / or missing	Total
Academic	14	15	6	62%	21	56
Admin	6	8	4	41.5%	25	43
Clerical	2	2	1	83%	1	6
Manual				0	3	3
Technical	1	5	1	43%	9	16
Total	23	30	12		59	124*

* One missing value

Appendix 14 Continued

LIFESTYLE SMOKING TABLE 1

Position and Smoking cigarettes Cross-tabulation Year 2000

Smoke Cigarettes Year 2000			
Position	Yes	No	Total
Academic	4	52	56
Admin	6	37	43
Clerical	-	6	6
Manual	-	3	3
Technical	1	15	16
Total	11	113	124*

* Missing value = 1

SMOKING TABLE 2

Staff Age groups and Smoking Cigarettes Cross-tabulation Year 2000

Smoke Cigarettes Year 2000			
Age	Yes	No	Total
18 to 25	-	3	3
26 to 40	4	36	40
41- 50	4	26	30
51 to 65	3	48	51
>66 years	-	1	1
Total	11	114	125

SMOKING TABLE 3

Smoking and Interest in stopping Year 2000

Spearman's rho			
	Smoke cigarettes	Interested in stopping smoking	
Smoke cigarettes	Correlation Coefficient	1.000	.949**
	Sig. (2-tailed)	.	.000

** Correlation is significant at the .01 level (2-tailed).

Appendix 14 Continued

LIFESTYLE ALCOHOL CONSUMPTION TABLE 1 Question 24

Average consumption of alcohol by Position Cross-tabulation Year 2000

Average consumption of alcohol by Staff Position Year 2000					
Position	Don't drink	Within health limits	Above limit	Excessively	Total
Academic	5	45	4	2	56
Admin	2	41	1		44
Clerical		6			6
Manual		3			3
Technical		16			16
Total	7	110	5	2	125

The male member of staff who omitted his position also drank above the sensible limit of alcohol.

ALCOHOL CONSUMPTION TABLE 2 Question 24

Average consumption of alcohol by Staff Age Year 2000 Cross-tabulation

Average consumption of alcohol by Staff Age Year 2000					
Age	Don't drink	Within health limits	Above limit	Excessively	Total
18 to 25		3			3
26 to 40	3	35	2		40
41- 50	2	25	2	1	30
51 to 65	2	46	2	1	51
>66 years		1			1
Total	7	110	6	2	125

APPENDIX 15

PRIORITISED RECOMMENDATIONS FROM THIS RESEARCH TO IMPROVE THE HEALTH OF STAFF

Each of the recommendations that follow has been prioritised to enable the University to implement them in a meaningful way. Obviously some recommendations could be implemented in parallel with others. Short guidance notes to assist implementation are presented in *italics*.

Priority 1

Work demand and job control

- Organisational change is required in order to reduce the workload demands on staff.
 - Senior management need to ensure that work demand is systematically addressed within the staff appraisal process for all staff. As a priority academic staffs' workload requires prioritisation over other staff positions. *Monitoring to ensure that workload is negotiated in line with the University of Eddington Strategic Plan (1999) could provide a starting point.*
 - *New thinking needs to be applied into ways that the demands placed on staff can be met to enable the important aspects of work to be achieved. A number of staff in this study suggested that a reduction in bureaucracy and administration would help.*
- Because of the changing demands and role ambiguity faced by staff, staff need to be enabled to have more job control and autonomy.
 - The appraisal process should identify role ambiguity and department plans made to reduce ambiguity and increase autonomy. *Managers should involve their staff in discussions to create a team approach as well as the individual appraisal process.*
 - Managers could increase the decision latitude within jobs commensurate with the ability of their staff. *This could be achieved quickly through discussion with each staff member especially as this*

study has shown that staff have many ideas on how to improve their performance at work.

- The university need to carefully consider the strategic implications with trade unions and staff of the issues raised by the European Working Time Directive (The European Commission, 1998) and its suggested 48-hour working limit.
 - Devise flexible ways to meet the organisational demands and those of staff members to ensure a measurable decrease in the number of staff who work excessive hours. *A workplace workload committee should be formed which reports to the Health and Safety Committee with a specific objective to examine working hours. The work of the committee should be time limited and on completion of their work be disbanded.*
 - Staff training in time and priority management may help to support those staff who perceive keeping up to date stressful, as part of the organisational and cultural change to reduce demand and increase staff control. *This work could be considered part of CPD/Staff development and offered by the Personnel Department as part of their training remit.*

Priority 2

Management issues

- To systematically collect data and develop comprehensive reporting systems to enable the university to quantify areas of stress and tension that need to be addressed. This information currently is either not collected or is anecdotal or gained by ad hoc arrangements needing to be formalised. *A comprehensive reporting system, which includes Personnel and Occupational Health Departments and departmental managers, would assist this process.*
- Acceptance of the stress issues by the top managers (at Directorate level) will help to promote the development of shared solutions to the problems experienced by staff. *The management information briefings (MIBs) highlighted in the post script to this thesis may be a starting point for this.*
- Implement a policy whereby self-certified sickness monitoring is managed centrally ensuring confidentiality in partnership by the Occupational Health

and Personnel Department. *This aspect could be dovetailed into the comprehensive reporting system above.*

- Stressed and sick employees should no longer be viewed as necessary casualties of change as they have been in the new stress policy highlighted earlier.
- The annual appraisal could form and be viewed as an employee 'job fit health check' as well as ensuring that the organisational objectives and aims are gained. *Checks are required to ensure that each member of staff is appraised and the Personnel Department would be well placed to facilitate this.*

Priority 3

Communication at work

- The decision-making processes should be made more transparent to enable staff to have increased involvement and ownership over issues that affect them.
 - Information about which decision making forum is responsible for the various aspects of university work and life is required. At present the complex committee structure, requires a great deal of time working in the system to begin to understand how it operates. Indeed, the committee structure is perceived as being too complex by many staff.
This information could be made available on a website and replicated in the Staff Handbook.
 - Managers and staff need to ensure that their aims and objectives are clearly understood. *The appraisal process provides an ideal opportunity for clarification and requires that all staff are appraised.*
- The advantages that information and communication technology brings to the workplace, such as speed and convenience in the communication process, requires both the sender and recipient to control or filter their messages to prevent important information being buried amongst trivia and communication overload.
 - Managers and staff may require training in how to communicate effectively and in the use of university ICT resources to filter

information. *This training could be considered part of Staff development and offered by the Personnel Department as part of their training remit.*

- A communication protocol especially one that deals with the use and misuse of e-mails is urgently required. *The Information Standards Organisation (ISO) should be charged with undertaking this work as a consultative process with all grades of staff across the various positions and working sites.*

Priority 4

The working environment

- The university should maintain vigilance over monitoring of the working environment through the Health and Safety and Occupational Health Departments.
 - Ensure that health issues pertaining to sick building syndrome are appropriately investigated and causes remedied. *Enable the Occupational Health Staff to have a proactive role in the workplaces of the university rather than the mainly reactive service it is forced to provide due to the limitations of its staffing.*
- Seek ways to improve internal cooperation between departments and faculties.
 - Reclaim social space for staff as a means of improving cross-departmental working. *Social interaction at work has been shown in this research to be important in reducing stress perceptions of work and requires each department to consider how this can be best achieved. The university executive could provide some strategic guidance to ensure that this work is achieved. Financial considerations may be an issue but in light of the findings in this thesis are considered an investment.*

Priority 5

Stress and Gender factors

- Staff and particularly managers need to be aware that stress in the university may affect men and women differently.

- Gaining an understanding of their staffs' individual circumstances may alert managers to spill-over stress which affects both genders but women more so than men. *Managers need to take time to walk around their departments to be alert to the signs of stressed staff.*
 - *Staff need to feel that they can approach their manager when they anticipate a problem rather than when the problem is occurring.*
 - *Gender stress issues need to be incorporated into management training and the Personnel Department could lead on this.*

Priority 6

Staff relationships

- All managers need to be made aware of and recognise the benefits of good social support at work.
 - Enabling the benefits of social support to be recognised and enabled in practice will assist in embedding this support into the culture and processes of the university. *In house management training programmes should explore social support for staff and ensure that this features in the learning outcomes.*
- Ensure that staff are regularly made aware of the harassment policy and procedures to expose and deal with bullying.
 - Staffs' perceptions of what constitutes bullying may need to be updated in light of this study and the subtle almost benign way that bullying may manifest. *The Personnel Department whose remit includes the development and responsiveness for the harassment policy need to ensure it is responsive, and fit for purpose.*

Priority 7

Coping factors

- The university needs to produce a stress policy that recognises that victim blaming treats only the symptoms and not the causes of stress and using the findings from this study will assist in this process.

- The policy should examine the coping factors suggested by staff to reduce their stress. *Clear guidelines on how to implement and operationalise such a policy are required.*
- Any employee who believes that they are suffering adverse effects from their work or work environment should seek support from their head of department, the Occupational Health Nurse or Personnel Services.
 - Further resources may need to be developed or bought into to effectively manage stress at an individual level. *The Students' Counselling Service may provide a short-term solution whilst an independent provider is sought. Again working with the PCT may benefit the university if further resources are required.*
- Managers need to consider the ongoing situational support that staff may require as university work changes.
 - Enabling more flexible working to take place, even in the short term, may enable staff who feel distressed to effectively deal with their situation. *The benefits of ICT should be capitalised to enable more staff to work from home should they desire to do so.*
- The directorate could consider relaxing its rules on space charging whereby departments are charged for every area within their control. This has effectively removed staff social space to enlarge the teaching capacity across the university. *This aspect was dealt with earlier above.*
- Departments need to regularly examine the way work is organized through the structures and processes of the university, to reduce the staffs' feelings of unpredictability, uncontrollability and of being overloaded. *When work is delegated a simple check by the delegator on the employees workload and current priorities may prevent distress and assist in priority setting, responsiveness, effectiveness and time management.*

Priority 8

Improving physical activity

- Managers need to ensure that staff who are in static positions for long periods at work, have regular opportunities to undertake physical activity at work during their working time. *Staff need to be made aware of the risks of maintaining*

static positions for prolonged periods and understand that they should take opportunities to regularly move around within their working environment.

- The university should review the cost of joining the university's gym, sport and leisure facilities as they seem to be prohibitive for many support staff. *If fees were scaled according to salary/wage then more support staff on low wages would consider joining.*
 - Because some staff find physically active students to be a barrier to their own activity the availability of staff only sessions could be examined and timetabled into the universities sport and leisure facilities.
- Improved employment conditions and work life balance is required especially to enable staff who have out of work commitments to increase their participation in physical activity at work. *These staff may then be enabled to use the gym facilities. The more staff who participate in sport and exercise may potentially help to drive the cost of membership down as well as enabling a fitter organisation.*
- Mark out healthy walks around the campus for staff and students. *This is one simple example that could easily be achieved by enabling students working towards final year projects and dissertations to work together on a range of health and environmental issues to benefit the health of the campus community.*

Priority 9

Improving healthy eating

- The university should develop a nutritional policy to assist in clarifying whether it wishes to subsidise healthy options particularly for those staff on low incomes. *The review could be conducted by the catering department with a remit to present costs and benefits for and against subsidising health eating.*
- That lunchtime workloads and demands made on some staff especially those who suggest that they cannot regularly take a proper break should be further investigated. *Line managers could monitor this situation and implement local solutions in negotiation with their staff.*

Priority 10

Smoking cessation and support

- As a large employer, the university could celebrate the high number of non-smoking staff especially in its literature and recruitment policy. *The university's marketing department could capitalise on this in a range of media communications.*
- Periodically remind staff that the university's non-smoking policy enables those who wish to quit to gain access to expert help free of charge, and importantly during working time to assist this process. *Regularly ensure that the health website is updated with the times of smoking cessation courses and how to access expert help.*
- The university should celebrate the healthy smoke free environment it has created and maintained for staff and could offer support to other organisations. *The health promotion adviser could work as a consultant to other large organisations to assist in their strategies to improve health.*

Priority 11

Alcohol consumption

- Staff need to be reminded that the university's alcohol policy ensures that if staff admit to problem drinking they have the issue treated in confidence, allowing sickness absence or time off whilst at work to access professional support. *The policy needs to be highlighted on the health website and used in conjunction with national 'drink drive campaigns'.*
- The recommendation that staff do not consume alcohol during their normal working day appears to be gaining momentum, but requires to be embedded into the culture. *Line managers should be aware of the signs of alcohol abuse and if they know their staff well, may enable them to determine any problems at an early stage.*

Priority 12

Staffs' interest and awareness of health and workplace health promotion

- Maintain female staff interest in health promotion and involve more male staff in health communications and future health policy development.

- To further target gender specific health education and promotion material especially to men. *Work with the PCT Health resources department and exploit national campaigns for example Breast Awareness Week and Testicular Self Examination awareness.*
- Set up male and female health forums. *A discussion board could be set up from the Health website and information targeted specifically to meet expressed needs facilitated by the HPA.*
- Occupational Health Department to set up wellness clinics beyond the limited screening service provided. *Work with the local PCT to pursue funding to ensure that the HPU objectives in the PCT's Health Implementation Programme (HImP) are met.*

APPENDIX 16

CONFERENCE PAPERS PRESENTED AND PUBLICATIONS SINCE COMMENCING THE DOCTORATE IN EDUCATION DEGREE

The conference papers and publications below represent various aspects of health research undertaken since commencing the Doctorate in Education Degree as a part-time student in October 1997.

CONFERENCE PRESENTATIONS

Watkinson, G.E. *Dealing with staff stress* Senior Management Briefings, University of Eddington, 28th February 2002, & 27th November 2001.

Watkinson, G.E. *What is health promotion?* Health Promoting Hospitals Conference Key note address, Portsmouth Hospitals Trust, 17 November 2001.

Watkinson, G.E. *Death on a Campus: Contingency Planning for Meningococcal Disease*, Southern Universities Management Services, University of Manchester 13th March 2001.

Watkinson, G.E. *Clubbing, Carbon Monoxide and Climatical Indoor Air Pollution* Improving Health in Partnership Conference, The Royal Society, London 7th February 2001.

Watkinson, G.E. and Kickham, N. *A Health Promoting University Partnership Critical Reflections Five Years On.* Improving Health in Partnership Conference, The Royal Society London 7th February 2001.

Watkinson, G.E. *A Health Promoting University- A settings based approach.* 2nd International Health Promoting Universities Conference *Universities, Colleges and Sustainable Health*, University of Central Lancashire, Preston 4th to 6th September 2000.

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