

Thesis
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OCCUPATIONAL STRESS, JOB SATISFACTION AND ROLE CONFLICT IN DOCTORS

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ABSTRACT

Based on a transactional model of stressors, mediators/moderators and strains, this large scale study investigated occupational stress, job satisfaction and role conflict in doctors in Scotland using a self-report questionnaire methodology. The sample of 986 doctors included male and female general practitioners (GPs) and specialist consultants. The relationship between sources and levels of occupational stress and job satisfaction was investigated using scales from the Occupational Stress Indicator (OSI) (Cooper et al 1988), considering the role of intervening variables including age, gender, marital/parental status, medical speciality, coping and attitudes. The relationship between occupational and domestic stressors and satisfactions was examined using theoretically derived models of additivity and asymmetric permeability of roles. A range of analytic procedures including multivariate analysis of variance, hierarchical regression, factor analysis and qualitative content analysis methods were employed.

Results indicated that GPs recorded greater stress and lower job satisfaction than consultants on the OSI scales. Managerial or structural occupational factors, and factors intrinsic to medical work were major stressors. Patient care was both a main source of stress and job satisfaction. The rather small magnitude of differences in stress and satisfaction between subject groups, and between subject groups and norms for the OSI scales was offset by clear evidence of stress related to doctors' occupational roles, domestic roles, and gender roles elucidated using more qualitative methodologies.

Subjects' age, gender and medical speciality were shown to affect the relationship between occupational stress and job satisfaction. Younger doctors, male GPs and female consultants experienced greater stress and less job satisfaction. Coping efficacy was negatively related to occupational stress and positively related to job satisfaction for GPs, and male and female GPs employed different styles of coping with stressors. Comparison of consultant specialities revealed differences in sources and levels of occupational stress and job satisfaction with Public Health Consultants recording most stress. Both male and female doctors with multiple occupational and domestic role demands reported higher levels of stress. Stress from work to home was found to be greater than stress from home to work for both male and female doctors. Recommendations and implications of the research for doctors, patients, and the National Health Service are discussed.

TABLE OF CONTENTS

Page No.

ACKNOWLEDGEMENTS	1
LIST OF TABLES	ii
LIST OF FIGURES	v
PREFACE	vi
<u>CHAPTER 1 : Stress and Coping</u>	1
1.1 Introduction	2
1.2 The Development of the Concept of Stress	2
1 2 1 Stress as a Social Construct	2
1 2 2 Stress as a Psychological Construct	3
1 2 2 1 Stimulus and Response Theories	3
1 2 2 2 Interactionist and Transactionist Theories	5
1.3 ‘Stressors’	6
1 3 1 Measurement of Stressors - Life Events	6
1 3 2 Measurement of Stressors - Daily Hassles	8
1.4 Mediators and Moderators of Stress : Individual Differences	8
1 4 1 Personality	10
1 4 1 1 Type AB Personality	10
1 4 1 2 Positive and Negative Affectivity and Extroversion/Neuroticism	11
1 4 1 3 Control and Helplessness	12
1 4 1 4 Hardiness	13
1 4 2 Socio-Economic Factors	14
1 4 3 Social Support	14
1 4 4 Gender Differences	15
1 4 5 Coping	17
1 4 5 1 Models of Coping	17
1 4 5 2 Coping Resources	18
1 4 5 3 Coping Strategies	19

TABLE OF CONTENTS		Page No.
1 4 5 4	Gender Differences in Coping	20
1 4 5 5	Measurement of Coping	21
1.5	Stress Outcomes, 'Strains' and Ill-health	22
1 5 1	The Relationship Between Stress and Somatic Illness	23
1 5 1 1	Gender Differences in Stress Reactivity	24
1 5 2	Stress, Depression and Anxiety	25
 <u>CHAPTER 2 : Occupational Stress</u>		27
2.1	Introduction	28
2.2	Sources of Job Satisfaction	29
2 2 1	Occupational Characteristics	29
2 2 2	Gender Differences in Job Attribute Preferences	31
2.3	Sources of Occupational Stress	32
2 3 1	Job Characteristics	33
2 3 2	Structure and Features of the Organisation	35
2 3 3	Career Development	35
2 3 4	Relationships at Work The Role of Social Support	36
2 3 5	Role Conflict and Ambiguity	37
2 3 6	Relationship between Work and Home	38
2 3 6 1	Dual Career Partnerships and Stress	39
2 3 7	Summary of Studies of Home/Work Interface	40
2.4	Moderators and Mediators : Individual Characteristics	49
2 4 1	Control and Autonomy	50
2 4 2	Type AB Personality	51
2 4 3	Positive/Negative Affectivity	51
2.5	Health Outcomes or 'Strains'	51
2 5 1	Physical Illness Gender Differences	52
2 5 2	Psychological Illness Gender Differences	53
2 5 3	Burnout	54
2.6	Summary of Gender Differences in Occupational Stress	55

<u>CHAPTER 3 : Stress and Job Satisfaction in Doctors</u>	57
3.1 Introduction	58
3.2 Sources of Job Satisfaction	58
3 2 1 Intrinsic Sources of Job Satisfaction	59
3 2 2 Extrinsic Factors	59
3 2 3 Comparison Between Medical Specialities	60
3 2 4 Gender Differences in Job Satisfaction	61
3.3 Sources of Occupational Stress	62
3 3 1 Intrinsic Job Characteristics	62
3 3 2 Workload	63
3 3 2 1 Gender Differences in Workload	65
3 3 3 Structure of the Organisation The Doctor's Role	65
3 3 4 Career Development	66
3 3 5 Relationships at Work	68
3 3 6 Role Conflict	69
3 3 7 Home - Work Conflict	71
3 3 7 1 Marital Conflict	72
3 3 7 2 Gender Differences in Home/Work Conflict	73
3 3 7 3 Dual Career Partnerships	74
3.4 Mediators and Moderators : Individual Differences	74
3 4 1 Personality Characteristics	74
3 4 2 Coping and Social Support	76
3 4 3 Age as a Variable	76
3.5 Outcomes of Stress in Medical Professionals	77
3 5 1 Physical Ill-Health	77
3 5 2 Mental Ill-Health	78
3 5 3 Burnout	79
3 5 4 Alcohol and Drug Use	80
3 5 5 Suicide	81
3 5 6 Impact of Doctors' Stress on Medical Practice	82
3.6 Summary of Research and Methodological Problems	83

TABLE OF CONTENTS

Page No.

<u>CHAPTER 4 : Methodological Issues</u>	95
4.1 Introduction	96
4.2 Methods Used in Stress Research	96
4.3 Problems Related to the Measurement of Stress	98
4.4 Self-Report Questionnaire Methodology	100
4.4.1 Representativeness of Subjects	100
4.4.2 Achieving Adequate Response Rates	101
4.5 Development of a Model of Stress	102
4.5.1 Simple Linear Model	103
4.5.2 Transactionist Models	103
4.5.3 Development of a Model for the Present Study	104
4.6 Plan of the Present Study	107
<u>CHAPTER 5 : Methodology of the Present Study</u>	109
5.1 Introduction	110
5.2 Aims of the Study	110
5.3 Study Methodology	110
5.3.1 Selection of the Sample	111
a) General Practitioners	111
b) Consultants	113
5.3.2 Measures	114
5.3.3 Procedure	123
5.3.3.1 Pre-Study Pilot	123
5.3.3.2 The Present Study	124
5.4 Detailed Research Questions	125
5.5 Statistical Analysis	127
<u>CHAPTER 6 : A Comparison of Stress and Job Satisfaction in Female and Male General Practitioners and Consultants</u>	130
6.1 Summary	131
6.2 Introduction	133

TABLE OF CONTENTS		Page No.
6.3	Method and Subjects	135
6.4	Measures	136
6.5	Analysis	136
6.6	Results	138
6.7	Discussion	151
 <u>CHAPTER 7 : Occupational Stress, Job Satisfaction and Coping in Male and Female General Practitioners.</u>		157
7.1	Summary	158
7.2	Introduction	159
7.3	Method and Subjects	162
7.4	Measures	162
7.5	Analysis	165
7.6	Results	165
7.7	Discussion	174
 <u>CHAPTER 8 : Occupational Stress and Job Satisfaction in Consultant Physicians in Different Specialities</u>		180
8.1	Summary	181
8.2	Introduction	182
8.3	Method and Subjects	185
8.4	Measures	185
8.5	Analysis	187
8.6	Results	189
8.7	Discussion	201
 <u>CHAPTER 9 : A Comparison of Gender Stereotypes, and Social Role Stereotypes in Male and Female General Practitioners and Consultants</u>		208
9.1	Summary	209
9.2	Introduction	211

TABLE OF CONTENTS		Page No
9.3	Method and Subjects	216
9.4	Measures	216
9.5	Analysis	219
9.6	Results	219
9.7	Discussion	228
 <u>CHAPTER 10 : Occupational Stress and Family Life : Comparisons of Male and Female Doctors.</u>		236
10.1	Summary	237
10.2	Introduction	238
10.3	Method and Subjects	242
10.4	Measures	242
10.5	Analysis	245
10.6	Results	245
10.7	Discussion	261
 <u>CHAPTER 11 : Conclusions and Recommendations</u>		266
11.1	Introduction	267
11.2	Main Conclusions from the Present Study	268
11.3	Methodological Problems and Suggestions for Future Research	277
11.4	Implications of the Research for Doctors, Patients and the Health Service	279
 <u>CHAPTER 12 : References</u>		282
APPENDICES		311
	APPENDIX I - Introductory Letters	311
	APPENDIX II - The Questionnaire	314

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LIST OF TABLES

<u>CHAPTER 2</u>	<u>Page No.</u>
<i>Table 2.1</i> : Summary of Studies of the Home / Work Interface	41
 <u>CHAPTER 3</u>	
<i>Table 3.1</i> : Summary of Research Studies Stress in Doctors	86
 <u>CHAPTER 5</u>	
<i>Table 5.1</i> : Numbers of Female GPs, Male GPs, Female Consultants and Male Consultants in Sampling Frame, by Health Board, 1991/92 (Scotland)	112
 <u>CHAPTER 6</u>	
<i>Table 6.1</i> : Time On-call for Weekdays and Weekends Comparing GPs and Consultants, and Males and Females	139
<i>Table 6.2</i> : Mean Scores (SD) for 547 GPs and 439 Consultants in Comparison with Combined Sample Norms (N=approx 7,500) on OSI Occupational Stress Subscales	140
<i>Table 6.3</i> : Mean Scores (SD) for 547 GPs and 439 Consultants in Comparison with Combined Sample Norms (N=approx 7,500) on OSI Job Satisfaction Subscales	141
<i>Table 6.4(a)</i> Mean Scores and Standard Deviations (SD) for Female GPs (FGP) Male GPs (MGP), Female Consultants (FCons) and Male Consultants (MCons) on OSI Occupational Stress Subscales	142
<i>Table 6.4(b)</i> Multivariate Analysis of Variance of OSI Occupational Stress Subscales with Sex and Speciality (GP, Consultant) as Main Effects, with Age as a Covariate	143
<i>Table 6.5(a)</i> : Mean Scores for Female GPs, (FGP) Male GPs (MGP), Female Consultants (FCons) and Male Consultants (MCons) on OSI Job Satisfaction Subscales	144
<i>Table 6.5(b)</i> : Multivariate Analysis of Variance of OSI Job Satisfaction Subscales with Sex and Speciality (GP, Consultant) as Main Effects, With Age as a Covariate	145
<i>Table 6.6</i> : Predicting Job Satisfaction from Occupational Stress Subscales	146
<i>Table 6.7</i> : Sources of Occupational Stress for Male and Female GPs	147
<i>Table 6.8</i> : Sources of Occupational Stress for Male and Female Consultants	148

<i>List of Tables (Contd)</i>	Page No.
<i>Table 6.9 : Sources of Job Satisfaction for Male and Female GPs</i>	149
<i>Table 6.10 : Sources of Job Satisfaction for Male and Female Consultants</i>	150
<u>CHAPTER 7 :</u>	
<i>Table 7.1 : Classification of Coping Strategies for 283 Female GPs and 264 Male GPs</i>	164
<i>Table 7.2 : Demographic and Practice Characteristics of Male and Female GPs</i>	166
<i>Table 7.3 : Pearson Correlations Showing Relationship between Practice Variables, Occupational Stress and Job Satisfaction for Female and Male GPs</i>	167
<i>Table 7.4 Comparison of Job Satisfaction, Occupational Stress and Coping Efficacy Scores for Male and Female GPs</i>	168
<i>Table 7.5 : Coping Strategies Used by Male and Female GPs</i>	170
<i>Table 7.6 : Comparison of Coping Styles Used by Male and Female GPs</i>	171
<i>Table 7.7 : Occupational Stress, Coping Efficacy and Coping Strategies as Predictors of Job Satisfaction for Male and Female GPs</i>	172
<i>Table 7.8 : Coping as a Mediator between Occupational Stress and Job Satisfaction for Female and Male GPs</i>	173
<u>CHAPTER 8</u>	
<i>Table 8.1 : Speciality Groups and Allocation to Categories</i>	187
<i>Table 8.2 : Number (%) of Consultants in each Speciality Group for Current Study in Comparison with Scottish Statistics (ISD 1992b)</i>	189
<i>Table 8.3 : Mean (SD) Occupational Stress Subscale Scores by Speciality Group and Combined Sample Norms</i>	193
<i>Table 8.4 : Mean (SD) Job Satisfaction Subscale Scores by Speciality Group and Combined Sample Norms</i>	194
<i>Table 8.5 Correlations of Occupational Stress Subscales and Job Satisfaction for Consultants in Different Specialities</i>	196
<i>Table 8.6 : Impact of NHS Change for N = 335 Male and Female Consultants by Speciality Group</i>	197

<i>List of Tables (Contd)</i>	Page No.
<i>Table 8 7 : Comparison of 'Male-dominated' and Less Male-dominated' Speciality Groups' Occupational Stress and Job Satisfaction Subscale Scores for Male and Female Consultants</i>	199
<i>Table 8 8 : Hierarchical Regression Analysis of Job Satisfaction for Female and Male Consultants in Male-Dominated and Less Male-Dominated Specialities</i>	200
<u>Chapter 9 :</u>	
<i>Table 9.1 : Coding of Advantages/Disadvantages of Being Male or Female</i>	217/218
<i>Table 9.2 : Demographic Characteristics of Male and Female GPs and Consultants in the Study</i>	220
<i>Table 9.3 : Comparisons of Male and Female GPs and Consultants in terms of Occupational and Domestic Stress, and Aspects of Job Satisfaction</i>	220
<i>Table 9 4 : Frequency of Recording of Stereotypes for Males and Females</i>	222
<i>Table 9 5 : Spearman Correlations Showing Relationship between Stereotype Components for Male and Female Doctors</i>	227
<i>Table 9.6 : Pearson Correlations Between Stereotypes and Levels of Stress and Satisfaction for Male and Female Doctors</i>	228
<u>CHAPTER 10 :</u>	
<i>Table 10.1 : Characteristics of the Study Sample (N=986)</i>	246
<i>Table 10.2: Change in Hours Worked, Time on Call and Domestic Work with Increasing Role Complexity</i>	249
<i>Table 10.3: Association between Aspects of Occupational Stress and Increasing Role Complexity</i>	251/252
<i>Table 10 4 Association between Job Satisfaction and Increasing Role Complexity</i>	255
<i>Table 10 5 : Home to Work (HW) and Work to Home Stress (WH), Home Stress, and Spouse Satisfaction for Male and Female GPs and Consultants</i>	254
<i>Table 10 6 : Correlation Matrix for Variables used in Hierarchical Regression analysis of Home/Work Interface for 'Role Complexity'</i>	259
<i>Table 10.7 : Hierarchical Regression Analysis of Stress Between Work and Home for Female and Male Doctors</i>	260

LIST OF FIGURES

<u>CHAPTER 1</u>	Page No.
<i>Figure 1.1</i> : Models of Moderation and Mediation Effects	9/10
<u>CHAPTER 4</u>	
<i>Figure 4.1</i> : Simple Linear Model of Stress	102
<i>Figure 4.2</i> : Transactionist Model of ‘Stressors’, ‘Moderators/ Mediators’ and ‘Strains’	105
<u>CHAPTER 5 :</u>	
<i>Figure 5.1</i> : Model on which the Occupational Stress Indicator was Based	118
<u>CHAPTER 7 :</u>	
<i>Figure 7.1</i> : Job Satisfaction for Increased Coping Efficacy for Male and Female GPs	169
<i>Figure 7.2</i> : Occupational Stress for Increased Coping Efficacy for Male and Female GPs	169
<u>CHAPTER 9 :</u>	
<i>Figure 9.1</i> Total Physical, Trait, Occupational and Domestic Stereotypes Recorded for Males and Females	221
<u>CHAPTER 10 :</u>	
<i>Figure 10.1</i> : Graph of Occupational Work Hours for Increasing Role Complexity	247
<i>Figure 10 2</i> : Graph of Time On Call for Increasing Role Complexity	248
<i>Figure 10.3</i> : Graph of Domestic Work Hours for Increasing Role Complexity	248
<i>Figure 10 4</i> : Graph of OSI ‘Factors Intrinsic to the Job’ Scale for Increasing Role Complexity	253
<i>Figure 10.5</i> Graph of OSI ‘Organisational Structure and Climate’ Scale for Increasing Role Complexity	254

PREFACE

Stress is a common feature of life in the late 20th century, and the growth in use of the term 'stress' is a reflection of the demands made on the individual in an ever more complex society. Such demands include an awareness of occupationally based pressures in an economic climate of increasing expectations and uncertainties. Although all occupations have their 'stressors' and satisfactions, medical professionals have been singled out as being particularly vulnerable to occupational stress and its consequences, in terms of mental and physical ill health. In a climate where individuals have increasing expectations for their own health and well-being, doctors are simultaneously responsible for their own, and their family's well-being, and ultimately for the provision of health care for others. In this sense, the causes and consequences of stress in medical professionals merit special attention. However, the study of stress is beset by many difficulties of definition and measurement.

The present study aims to address some of these issues in a large scale study of occupational stress and job satisfaction in doctors in Scotland, including approximately equal numbers of general practitioners and specialist consultants, and approximately equal numbers of male and female doctors to enable gender differences and speciality differences to be addressed.

The first three chapters review relevant literature and provide a background to the study, moving from a general discussion of stress, to a consideration of stress in an occupational context, and finally examining specific sources of stress in medical professionals. *Chapter 1* examines the development of the concept of stress over time. In order to clarify what is meant by stress, both stimulus-response and interactionist models are introduced and discussed in terms of potential components of the antecedents, intervening characteristics and consequences of stress for the individual. *Chapter 2* introduces the concept of occupational stress, considering the impact of work demands in different types of occupation and examining potential consequences of stress for the work organisation. Factors which contribute to both occupational stress and job

satisfaction are discussed, together with potential characteristics of the individual which might influence the relationship between such factors for males and females. Theoretical models of the relationship between the demands of work and home life are also explored, with particular emphasis on the contribution of gender differences in occupational and domestic roles. *Chapter 3* concentrates on the specific sources and consequences of stress and job satisfaction in medical professionals, considering characteristics of medical work, and individual characteristics which might make doctors particularly vulnerable to occupational stress, and reviewing previous studies in this area.

Chapter 4 discusses previous methodological problems in stress research, problems associated with the proposed study methodology, and development of a theoretical basis for the present study. *Chapter 5* describes the methodology of the present study in detail, including a summary of the measures, sampling, and statistical analysis, study pilot, and specific research questions to be answered.

Chapters 6 to 10 present the results of the present study. *Chapter 6* gives a broad descriptive analysis of sources and levels of stress and satisfaction for all of the doctors in the study. Normative comparisons with other occupations are also included, and comparisons between GPs and consultants, and gender differences in 'stressors' and 'strains' are investigated. *Chapter 7* focuses more directly on the relationship between occupational stress and job satisfaction for GPs, concentrating on the role of coping as an intervening variable in the relationship between occupational stress and job satisfaction. *Chapter 8* investigates occupational stress and job satisfaction for consultant doctors, and includes analysis of different types of consultant speciality, including a consideration of the relevance of the gender composition of different types of speciality. *Chapter 9* compares male and female doctors in terms of their perceptions as to how men and women differ in their medical roles. The final results chapter, *Chapter 10* examines the relationship between occupational and domestic stress and satisfaction, incorporating theoretical models of role asymmetry and role additivity to investigate stress in the home/work interface, for doctors at different life stages. In conclusion, *Chapter 11* summarises the study findings, discussing the potential for future research and implications for medical professionals and the National Health Service.

CHAPTER 1 :
Stress and Coping

1.1 Introduction

“Stress is like many human experiences, easily recognised but described or defined with great difficulty” (King 1993)

The current popular notion of ‘stress’ as an individual state relates psychological and physical ill health to the increasingly accelerating pace and demands of everyday life in the twentieth century. The development of the concept of stress within the individual is therefore seen to be linked to changes within the social structure.

1.2 The Development of the Concept of Stress

1.2.1 Stress as a Social Construct

Although the concept of the individual existing within a social and cultural milieu dates back to the beginnings of primitive society, recognition of a social structural explanation for mental or physical disease is relatively recent, and can be traced to the beginnings of industrialisation in the 18th and 19th centuries. The use and meaning of the term ‘stress’ has changed substantially over this period of time, reflecting changes in cultural and social structures. Hinkle (1975) describes the term ‘stress’ used in the 17th century to refer to individual *“hardship, straits, diversity or affliction”*. However, during the 18th and 19th centuries usage changed to reflect the physical scientific notion of *“force, pressure or strong effort”*, and was adopted in engineering and physics in the late 19th and early 20th centuries to denote *“pressure or strain”*.

In its modern usage, the term ‘stress’ has been used to reflect difficulties in the relationship between the individual and social structural aspects of society. Abbott (1990), with reference to the USA, notes that the concept of stress, or *“the idea that life places difficult demands on individuals who then succumb under the strain to psychological or biological disease originated in the Romantic critique of modernity”*. In Britain, 19th century philanthropists ascribed the moral breakdown of the individual, social, and family life to the development of industrialisation and urbanisation. These theories were further developed in the writings of Marx, Weber and Durkheim whose concepts of ‘alienation’, and ‘anomie’ related changes in social structure to the mental well-being of the individual. Occupational or ‘traumatic’ neuroses were recognised as producing ‘nervous disease’ which was

attributed directly to the pressures of modern life. After the Second World War, when the term 'stress' increasingly became part of common usage, 'functionalist' social theories reflected concern with 'worker health' as a result of working conditions, seeing improved mental and physical health as a means to improved work performance and industrial output. More recently, 'stress' has been viewed as an indication of fragmentation in social relationships and a reaction to aspects of social change such as unemployment or job insecurity, to the extent that "*stress has increasingly become to be regarded as an integral part of everyday experience*" (Pollock 1988). In popular usage the term 'stress' has increasingly become synonymous with illness. Perhaps because the term 'stress' has been widely adopted in common parlance, and despite a burgeoning body of stress research there is still ambiguity in the definition of 'stress', leading some researchers to call for the abandonment of the term altogether, as an imprecise 'umbrella' term for a wide range of individual and social experience (Mason 1975b).

1.2.2 Stress as a Psychological Construct

1.2.2.1 Stimulus and Response Theories

The term 'stress' is seen as describing a disturbance in the individual's state of internal balance or equilibrium. The concept of 'homeostasis' or balance dates back to the ancient Greeks. Hippocrates considered health to be a state of harmonious balance, and disease as a state of disharmony. Epicurus suggested that coping with emotional problems improved individual 'quality of life' (Johnson et al. 1992). However, Pollock (1988) notes that although the term 'stress' was loosely associated with ill health during the 19th and early 20th centuries, it was not commonly used in the psychological or psychiatric literature until after the Second World War. The term was adopted from the engineering context by Cannon (1935) who carried out research into physiological *responses* to emotional arousal, via the endocrine and sympathetic nervous systems. Cannon described the 'fight or flight' mechanism as being biologically adaptive by maintaining homeostasis, and also developed the concept of 'critical levels of stress' where repeated or high levels of arousal led to 'strain or breaking point' and subsequent illness. Continuing Cannon's work, Wolf and Wolff (1947) concluded that some individuals have an inherited disposition to develop distinct

physiological symptoms such as raised blood pressure, or gastric ulcers, as a response to stressful events

Perhaps the most famous early work on stress was carried out by Hans Selye from the 1940's onwards, when he applied the physical concept of stress or strain to refer to a physiological response to external demands (Selye 1946, 1956). Selye used the term "General Adaptation Syndrome" to refer to a *non-specific* physiological response to demands such as fatigue, pain, fear, emotional arousal or even unexpected success. Selye described this physiological response as characterised by enlargement of the adrenal cortex, shrinking of the thymus and lymph glands, and ulceration of the stomach and duodenum. Selye described three stages of 'alarm', 'resistance' and 'exhaustion'. During the 'alarm' phase, the body mobilises, producing neurological and hormonal changes in an attempt to cope with imminent threat. Blood is routed to the muscles and the brain, enabling the body to provide 'resistance' to the stressor. If the stage of 'resistance' or arousal is prolonged, where stressors are severe or repeated, this can lead to a maladaptive state of alert or 'exhaustion' which may lead to disease or death.

Selye's 'General Adaptation Syndrome' has been a very influential model in the scientific and behavioural sciences linking stress with illness, providing a basis for future 'life events' research aimed at identifying and quantifying external demands or stressors. However, Selye's work has been criticised on several counts. The concept of the non-specificity of the physiological response was criticised by Lacey (1959) and later by Mason (1975a, 1975b) who argued that an individual's response to stressors is not uniform, and that particular stressors produce distinct endocrine responses. Mason further argued that the non-specific response identified by Selye may have been elicited by general emotional arousal, which is common to a wide range of stimuli. In this sense, the stress response depended on the severity, chronicity and intensity of the external stressor and the individual's own cognitive perception and interpretation of the degree of threat, which in turn depended on individual personality, social and cultural factors, not accounted for in Selye's work. Selye subsequently defended his position by maintaining that the specificity of the stress reaction was related to the *degree* of stress experienced, and that 'mild stress' and 'intense stress' led to different

degrees of specificity of response. He also said that the perception of a stressor as positive or negative depended on the individual's perception or appraisal of the threat. Even within Selye's work, the term 'stress' is variously used to describe both the external *stimulus* (i.e. physiological stimuli such as heat, cold, low blood sugar) and the body's *response* to stimuli. This confusion has been evident in much of the stress literature, with the term 'stress' being used as a global or imprecise term or with different meanings in different academic disciplines.

1.2.2.2 Interactionist and Transactionist Theories

The concept of interactionism with its emphasis on person and situational variables and processes has a long history in the study of personality (Endler and Edwards 1982). However, a main criticism of the early work on stress was the lack of consideration of individual cognitive interpretation or perception of the nature or severity of a threat. Following on from the early work of Cannon and Selye, cognitively based 'transactionist' or 'interactionist' theories of stress were developed, emphasising individual perception or appraisal of stressors.

Lazarus and colleagues (Lazarus 1966, Folkman and Lazarus 1980, Lazarus and Folkman 1984, Folkman et al. 1986) emphasised the conceptual importance of cognitive appraisal of stressors, defining stress as "*a particular relationship between the person and the environment that is appraised by the person as taxing his or her resources and endangering his or her well-being*" (Folkman et al 1986). Other researchers (McGrath 1970, Cox and Mackay 1981) employed a broad definition of stress as an interaction between individual perceptions and a range of environmental demands, emphasising the importance of primary and secondary appraisal. During 'primary appraisal' the perceived severity or degree of threat of an event is established. In 'secondary appraisal' the individual's resources or ability to cope are determined. The balance between primary and secondary appraisal determines the 'subjective' experience of stress. However, it is also important to recognise that some events have 'objective' physical effects that are independent of appraisal. Noise stress is an example, although people have different levels of tolerance to noise, excessive levels of noise can cause hearing loss or damage.

The transactionist approach to the study of stress can be said to combine the psychosocial, environmental and psychological cognitive approaches. Where demands are appraised as exceeding resources, and constraints exist on coping, negative feelings may arise leading to changed perception or cognition of the situation, affecting behavioural and physiological functions. This approach is also dynamic, whereby feedback alters future appraisal and coping ability. The interactive model therefore takes account of the potential meaning of an event as being either positive or negative, and recognises not all events are stressful to all people.

Based on a 'stimulus → intervening variable → response' causal model, the present study adopts a transactional approach to the discussion of 'stress', distinguishing between the role of 'stressors', 'moderators/mediators' and 'outcomes or strains'.

1.3 'Stressors'

'Stressors' may be 'subjective' or 'objective' environmental characteristics which are a source of individual demand or pressure. Events are not 'stressors' unless they are perceived as such by the individual. However, events which are negative rather than positive, unpredictable or uncontrollable, ambiguous rather than clear, and over-demanding rather than non-demanding, are generally more likely to be perceived as stressful, although stressors may include boredom and lack of stimulation. Stressors can also be described by their severity and duration, and can be acute (e.g. awaiting surgery, sitting an exam) or chronic (e.g. unemployment, marital conflicts). Stressors may be major life events such as losing a job, or moving house, or more 'trivial' and chronic 'daily hassles', such as being under time pressure, or working in a noisy environment.

1.3.1 Measurement of Stressors - Life Events

Based on the work of Cannon and Selye, and the premise that life events involve change or disruption to life, and are therefore a source of pressure or strain, Holmes and Rahe (1967a) developed the Schedule of Recent Experience. This measure scaled 43 life events, by severity, (including 'death of a spouse' as most severe and 'minor law transgressions' as least severe), and frequency, according to how many times each has occurred in a specified time period. Holmes and Rahe subsequently constructed the Social Readjustment Rating Scale.

(1967b) to quantify the required degree of adjustment to specific events, being regarded as an indicator of vulnerability to physical or mental illness. These self-report scales have been widely applied, in attempts to describe the link between life events and subsequent illness, but have been criticised for relying on retrospective reporting, and being open to inaccurate recall, or 'telescoping' of distressing events. Some 'objective' items on the scales have been identified as culturally or individually ambiguous. For example, 'pregnancy' or 'child leaving home' may be viewed either as a positive or negative event (Dohrenwend and Dohrenwend 1978). Impact of a life event can also be influenced by both subjective factors such as personality type, perceived control and anticipation, and objective factors such as social support and the cultural milieu, which affect the perception of the event as a threat or challenge.

Paykel (1983) also noted methodological difficulties in the measurement of stressors, and determination of causality. Accurate quantification of 'stressors' may be confounded by prior illness, and life events may also contribute to the onset of psychiatric illness. Paykel suggested that life events interact with individual and environmental factors to produce different levels of stress. Although scales of measurement of stressors are generally weighted by consensus responses, they often fail to take account of the subjectivity of personal judgements, and the fact that certain events which occur commonly they do not necessarily lead to illness.

The concept of additivity of events leading to more severe experience of stress has also been questioned, suggesting that it is not the number of events, but the severity and salience of events to the individual that is important (Brown and Harris 1982). Life event rating scales are often unable to reliably establish illness causality, since pre-existing illness may influence individuals' perception of the stressfulness of events. Brown and Harris (1978) used an alternative, detailed, interview-based methodology to obtain a list of 38 types of events. This qualitative methodology, using an interviewer-based rather than respondent-based definition of events enabled them to exclude events which were clearly brought on by illness.

Depue and Monroe (1986) also criticise 'life events' research, suggesting that environmental 'events' account for only a small proportion of variance in illness (generally around 3%),

noting that a chronic pattern of illness exists in the general population at levels of 25% or higher and argue that this pre-existing illness accounts for the majority of the variance in both physical and psychological disturbance. Both Brown and Harris and Depue and Monroe suggest that chronic disorders can also *generate* stressful events of both major and minor magnitude, making the causal independence of illness and events impossible to determine.

1.3.2 Measurement of Stressors - Daily Hassles

'Life events' scales also fail to take account of stressors which may seem to be trivial, but are ongoing and may occur on a regular basis as 'daily hassles'. Kanner et al. (1981) in a study of 100 middle aged adults, compared two modes of stress measurement, 'events' and 'hassles'. Whereas both hassles and life events generated symptoms of stress, hassles were stronger predictors of psychological symptoms than life events. Kanner et al. (1981) also noted that positive everyday experiences or 'uplifts' were correlated with psychological symptoms for females, but not for male subjects.

De Longis et al. (1982) examined the relationship of hassles, uplifts and life events to somatic health status, in a study of 100 highly educated, high earning individuals. They found that hassles were more closely related to somatic health outcomes than major life events for this highly selected group, although the relationship of 'uplifts' to somatic health was weak. This approach however does not take account of the individual's interpretation of what constitute hassles, uplifts, or life events, in the context of their daily lives. The significance of a hassle or life event derives from the meaning it has within the context of daily life, as well as from what actually happened. The relationship between hassles, life events and health may also be cyclical and responsive to changes in health status over time which may influence the appraisal of the event.

1.4 Mediators and Moderators of Stress : Individual Differences

"Stable attributes of the individual are equal to or more powerful than socio-environmental factors in predicting human disorder" Depue and Monroe (1986)

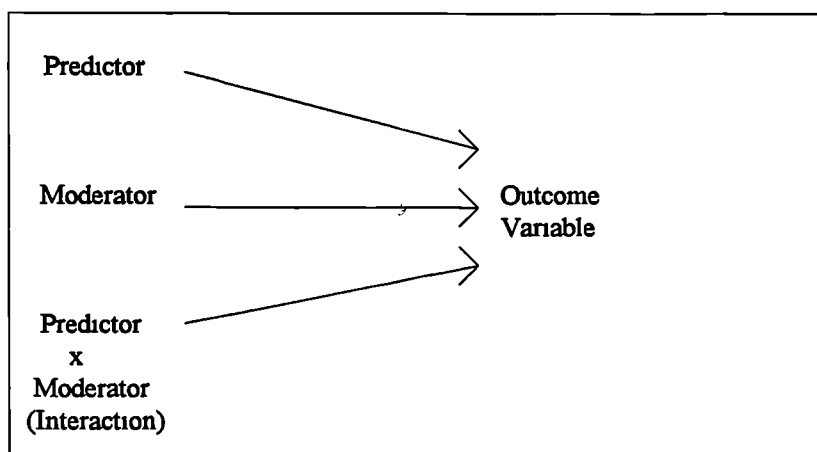
The interactionist approach to the study of stress emphasises the importance of intervening variables or characteristics of the individual and environment, and their relationship to

experienced stressors and strains. The terms ‘mediator’ and ‘moderator’ and other terms such as ‘buffer’ are sometimes used interchangeably, to indicate the presence of an intervening variable, although they differ conceptually and statistically (Baron and Kenny 1986). A moderator can be a qualitative (e.g. sex, social class) or quantitative variable (e.g. level of intelligence) “whose presence or level alters the direction or strength of the relationship between two other variables” (Cox and Ferguson 1991). In the stress context, examples of moderating variables are those which might affect perception or appraisal of stressors and their effect on outcomes, such as coping behaviour, social support, or locus of control. Moderating variables are generally considered in their role as joint predictors of variance in outcome and are statistically represented by interaction effects in analysis of variance or regression analysis. A path diagram illustrating the moderator model is illustrated in Figure 1.1(i) below.

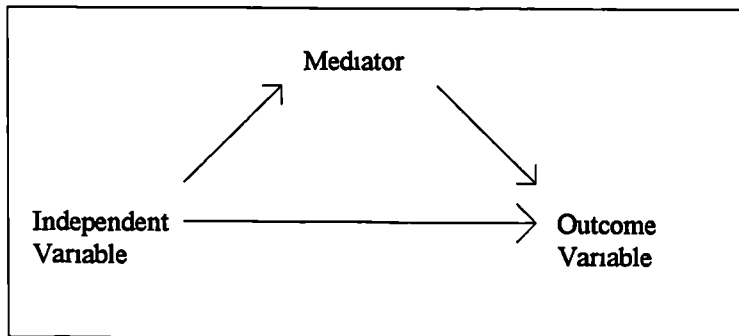
A mediator variable is one which is “responsible for transmission of an effect but does not alter the nature of that effect” (Cox and Ferguson 1991), and is illustrated in Figure 1.1(ii) below.

Figure 1.1 Models of Moderation and Mediation Effects

(i) Moderation Effect



n) Mediation Effect



Adapted from Baron and Kenny (1986)

The central concept of mediation is that the effects of stimuli on behaviour are altered by processes internal to the individual. In this sense, mediator variables are often individual characteristics or personality variables such as ‘hardiness’, self-esteem or neuroticism, and are used to answer the question ‘how’ things happen whereas moderators address the question ‘when’ they happen. However, it should be noted that the same characteristics can be both mediators and moderators of effects depending on the relationship under investigation.

1.4.1 Personality

Eysenck (1970) defined personality as “*more or less stable or enduring organisation of a person’s character, temperament, intellect and physique that determines his/her unique adjustment to the environment*”. Many aspects of personality have been considered as intervening variables and associated with susceptibility to increased stress and stress-related illness, some of which are considered below.

1.4.1.1 Type A Personality

Friedman and Rosenman (1973) carried out a prospective study of over 3,400 males in the USA and at follow-up found that ‘Type A’, in comparison with ‘Type B’ individuals, had a greater incidence of CHD and other coronary risk factors such as raised cholesterol. The concept of Type A or ‘stress prone’ personality has been subsequently used in many studies to describe behaviour predictive of coronary heart disease and

stress related illness (Haynes and Fennell 1980, Cooper and Marshall 1976, Frankenhaeuser et al. 1989) Type A behaviour is characterised by competitiveness, aggressiveness, impatience, restlessness, need for achievement, responsibility and feelings of being under pressure of time, whereas Type B individuals do not show the same degree of competitiveness, and aggressive hostility. Conversely it may be argued that Type A personalities are liable to experience less stress and greater satisfaction because of their greater investment in whatever they do, and that the exercise of greater mastery and control over their environment may offset the effects of stress.

However, evidence linking Type A behaviour with CHD is not conclusive. Powell (1987) suggested that such evidence is weak, with only half of studies reviewed establishing a statistically significant relationship between Type A behaviour and either CHD or myocardial infarction. There has been disagreement over measurement of Type A behaviour within this broad-based construct, with some authors arguing that there is also a substantial overlap between characteristics of Type A and other aspects of personality or behaviour, such as neuroticism, extroversion and anxiety (Powell 1987, Eysenck 1988) or anger and hostility (Dembroski et al. 1985). It has also been suggested that Type A behaviour patterns may be a *result* as well as a *cause* of increased reactivity to stressors (Byrne and Rosenman 1986, Frankenhaeuser et al. 1989).

Eysenck and colleagues also developed a typology of personality which they argue is more accurate than Type A/B in predicting illness. This is Type 1 (understimulation), Type 2 (overarousal), Type 3 (ambivalent), and Type 4 (personal autonomy) (Eysenck 1988, Grossarth-Maticek et al. 1988). Types 1 and 2 are associated respectively with 'cancer-prone' and 'CHD prone' behaviour.

1.4.1.2 Positive and Negative Affectivity and Extroversion/Neuroticism

Positive affect reflects the extent to which an individual feels enthusiastic, active or alert. High positive affectivity is characterised by energy and pleasure, whereas low positive affectivity is characterised by apathy and sadness. Conversely, high negative affectivity is characterised by aversive mood states, including anger, guilt, fear and nervousness.

whereas low negative affectivity reflects calmness and serenity (Watson and Tellegen 1985) These states roughly correspond to the personality factors of extroversion/neuroticism, and also overlap features of depression and anxiety It has been suggested that consideration of dispositional affect is crucial in stress research Watson (1988) states this succinctly *“high negative affectivity individuals may view their lives as a series of stressors or hassles whatever happens to them”* (page 1028)

However, McLennan et al. (1994) in a study of both neuroticism and extroversion, and positive and negative affectivity in a longitudinal study of 106 students, conclude that neuroticism is a more accurate predictor of psychological distress than negative affectivity Since trait neuroticism and anxiety seem to be related to many other potential variables such as Type A behaviour, locus of control and negative affectivity, it has similarly been suggested that neuroticism and anxiety should be routinely considered as background variables in stress research, since they affect the experience and perception of stress outcomes

1 4 1 3 Control and Helplessness

The presence or absence of perceived control over the environment has been shown to affect health and well-being Events perceived as unpredictable or uncontrollable are potentially more stressful than those perceived as manageable and may incur a greater long-term cognitive cost both in terms of the individual's ability to cope with future stressors and future cognitive performance (Glass and Singer 1972, Miller 1979, Cohen 1980) 'Learned helplessness' following long-term loss of perceived control has also been associated with emotional and motivational deficits, depression and lowered immunity to disease (Seligman 1975) 'Internal' orientation and overall level of control are also perceived as positive coping resources (Pearlin and Schooler 1978)

Locus of Control

The concept of locus of control, initially developed by Rotter (1966) assesses the extent to which an individual feels that life is controlled by his or her own behaviour ('internality') or by others ('externality') Locus of control has also been related to

mental ill-health, with 'externals' showing more anxiety and depression. Internality is therefore seen as a positive resource in coping with stressors, whereas externality is associated with helplessness and poorer coping. Flemming et al. (1984) suggest that orientation of personal control explains variations in coping styles and focus. 'Internals' are less likely to perceive a stressor as harmful since they feel they can control the outcome themselves, whereas 'externals' perceive greater threat in stressors and experience greater stress.

The value of locus of control as a separate construct has been questioned since it has been shown to correlate highly with anxiety and depression, and overlap personality variables such as neuroticism (Payne 1988). Payne argues that locus of control is situation specific. This is supported by results from a study of 56 female spouses of dialysis patients, carried out by Schoeneman et al. (1983), relating external locus of control to poorer adjustment to spouse's illness, in terms of increased state and trait anxiety and depression. However, when related specifically to coping with health problems such as chronic illness, where potential for personal control is less, Schoeneman et al. found that internal locus of control was not related to better adjustment, and may be dysfunctional for coping with chronic illness, as the individual assumes responsibility for a situation outwith his or her own control.

1.4.1.4 Hardiness

The personality construct 'hardiness', characterised by a sense of meaning or commitment, a challenging view towards change, and a sense of control over events (Kobasa 1985), has been investigated as a moderator of the impact of stressors on health outcomes. In a study of business executives, Kobasa suggested that hardy individuals can experience larger amounts of stress without becoming ill than those who are 'powerless, nihilistic and low in motivation for change'. Hardy individuals who see change as a challenge may be predisposed towards being more flexible, dealing more efficiently with novel situations, and are likely to receive greater social support, improving their 'resistance' to stress. The concept of a hardy personality as a resource for coping with stress is intuitively appealing. However, Funk and Houston (1987) criticise the construction of

the hardiness scales as overlapping the concepts of alienation and maladjustment, and suggest the moderating effect of hardiness on stressful life events is not significantly large to warrant its use as a separate construct. The concept of hardiness has also been criticised for being based on self-report of stress status, since some individuals may under- or over-report stressors, and for failing to take account of pre-existing illness which also affects perception of stressors.

1.4.2 Socio-Economic Factors

Patterns of both physical and psychological morbidity show increased incidence of many types of stress-related illness in lower socio-economic groups (Fletcher and Payne 1980). Many factors are involved in the assessment of risk factors for disease between socio-economic groupings. Income levels, housing quality, education level and access to medical services are among the many factors which should be taken into account, together with domestic and workplace characteristics. There may also be differences in the reporting of stress, with higher socio-economic groups perceiving an admission of stress as being acceptable, and being increasingly likely to report stress (Cherry 1978).

Increased frequency and chronicity of severe life events, vulnerability to stressors, reduced social support and less successful coping have all been related to lower socio-economic status (Pearlin and Schooler 1978, Kessler 1979, Murphy and Brown 1980, Stone and Neale 1984). Depue and Monroe (1986) also noted that individuals with increased psychological and physical morbidity were more likely to be 'occupationally impaired' - having lower paid jobs, lower income and coming from lower socio-economic groups, quoting Lin et al's (1981) statement that "25% of variance in negative affect scores was accounted for by family income".

1.4.3 Social Support

The degree and quality of social support an individual receives has been studied both in terms of the direct effect on health and the indirect effect as a moderator or mediator of stress outcomes (LaRocco et al. 1980, Revicki and May 1985, Marcellisen et al. 1988). No firm conclusions regarding the role of social support as a moderator of stress can be

drawn from the many studies which have been carried out to date. Although social support seems to have a direct effect on the psychological and somatic symptoms of stress, there is an apparent contradiction in the fact that females report greater psychiatric morbidity and somatic illness than males, although they have been shown to have greater social support (Billings and Moos 1981, Stone and Neale 1984). One explanation may be a lack of specificity in measurement and definition of what constitutes support in many studies, and the inability of studies to distinguish between the context (e.g. in the family or occupational domain), the type of support given (e.g. emotional support, problem solving support), and the relationship with the provider of support (e.g. work peers, supervisors, family members).

In a review of social support research, Vaux (1985) notes that both levels and influence of social support vary between socio-economic groupings, ethnic groups, and also by age and gender. Vaux emphasises the complexity of the relationship between social support, stress and illness and considers support in terms of individual resources (e.g. relationships, involvement with others), behaviours (e.g. specific acts, such as listening to others, exchange of ideas), subjective appraisals (e.g. the individual's perception of the amount and quality of support), and in terms of the types of support offered (e.g. practical, informational, emotional).

The context of support is also important. A study by Holahan and Moos (1982) suggested that support in a family context may be perceived as more valuable by females, whereas social support at work is more valued by males.

1.4.4 Gender Differences

Many researchers in the field of stress have studied differences between males and females in terms of susceptibility to physical and mental illness. Although females live longer than males, and are less prone to some types of serious physical illness, such as cardiovascular disease, females have a higher incidence of minor physical illness and psychological illness, particularly anxiety and depression (Jick and Mitz 1985).

Female physiological characteristics related to reproduction and hormonal cycles may be a protective factor in CHD and also contribute towards differences in rates of minor physical and mental illness (Wheatley 1991). Females also exhibit greater utilisation of health services (Nathanson 1975; Jick and Mitz 1985; Walters 1993), and increased reporting of illness, distress or stressors, since it is often more socially acceptable for females than males to show outward signs of weakness. A further premise is that females and males may manifest reactions to stressors differently, with females being more likely to exhibit psychological distress and males being more likely to exhibit physiological distress such as CHD (Jick and Mitz 1985). Alternatively, differences between males and females in terms of illness may be explained by the differences in sources and levels of stress they experience in everyday life.

Although the family setting may be regarded as a refuge or sanctuary from the outside world many authors have discussed the concept of the family as a source of conflict and stress. (Laing and Esterson 1964; Oakley 1974, Brown and Harris 1978; Pearlin and Turner 1987). Pearlin and Turner (1987) identify a lack of reciprocity, affective exchange, self-authentication and frustration of role expectations as sources of marital strain. Because females tend to carry ultimate responsibility for family life, they may also be more vulnerable than males to stressors affecting other family members (Kessler 1979; Zuckerman 1989). In an interview-based general population study of 197 females aged 18-54, Kandel et al. (1985) identified family roles (marriage, parenting) as being less stressful than both housework and occupational roles. Several authors argue that females' increased vulnerability to minor physical and mental illness may be due to their occupation of multiple roles, with commitment and responsibility for domestic, social and occupational roles additively creating stress (Belle 1982; Baruch et al. 1987; Pearlin and Turner 1987), although others have found multiple roles to be related to reduced levels of stress, and greater mental well-being (Haw 1982; Thoits 1983; Kandel et al. 1985; Kopp and Ruzicka 1993).

Although gender-related physiological differences play a part in the relationship between stress and illness, major differences between males and females in the experience of stressors and strains have been shown to be related less to gender itself, than to sex role stereotypes, and social roles that individuals occupy (Powell 1982; Deaux 1984; Vingerhoets and Van

Heck 1990) The masculine sex-role has been described as 'instrumental' emphasising independence and rationality, and the female role as 'expressive' showing warmth, compassion and supportiveness (Broverman et al. 1972, Spence et al. 1975) However Bem (1974) argued that masculinity and femininity represented complementary not opposite domains, and that 'androgyny' (having both masculine and feminine characteristics) indicated greater flexibility in behaviour, and better psychological health. In terms of coping and social support, females have been shown to use more 'expressive' and less 'instrumental' forms of coping, and to value closeness and intimacy, whereas males emphasise sociability in relationships

1.4.5 Coping

Individual coping behaviour may moderate or mediate the relationship between stressors and stress outcomes or strains. Some definitions of coping emphasise only conscious efforts to deal with stressors (Haan 1977, Stone and Neale 1984), although these definitions do not account for the possibility of denial of reality or automatic coping behaviour. In their review and meta-analysis of 25 studies of coping, Matheny et al. (1986) define coping as "*any effort, healthy or unhealthy, conscious or unconscious, to prevent, eliminate or weaken stressors, or to tolerate their effects in the least hurtful manner*". This definition takes a wide view of coping, and emphasises the fact that coping can have both positive and negative connotations. However, there is general agreement that the term 'coping' refers to *active* attempts to manage conditions of harm or threat, and to maintain personal equilibrium or well-being. 'Coping' is defined succinctly by Cox (1987) as "*adjustment to a situation or adjustment of a situation*", (i.e. emotion regulating, or problem solving)

1.4.5.1 Models of Coping

Coping is a dynamic or cyclical process, in that coping behaviour itself influences cognitive appraisal of a stressor, which in turn influences future coping. A useful distinction can be made between coping resources, the way people *are*, and coping strategies, or ways of coping, the things people *do*. Cox (1987) discusses coping as problem solving behaviour, seen as a series of stages: Recognising the existence of a problem, diagnosing or analysing its characteristics, listing possible solutions, evaluating the possible success of solutions,

implementing solutions, monitoring success or failure, and feedback and learning. The problem-solving approach to coping is appealing since it highlights potential stages for intervention and improvement of coping. However, the problem solving approach may be criticised for assuming that choice of coping strategies or behaviour is based on *conscious* and *rational* appraisal of stressors.

1.4.5.2 Coping Resources

Coping resources may be external or internal to the individual. External resources may include tangible resources such as money, time, or social support. Internal resources include personality type, degree of mastery or control and styles or ways of coping. Resources also include cognitive skills and social or life skills such as assertiveness, and parenting skills. Factors such as socio-economic grouping, gender, and level of income also have an important effect on ability to cope successfully with stressors (Pearlin and Schooler 1978, Folkman and Lazarus 1980, Stone and Neale 1984, Vaux 1985).

Pearlin and Schooler (1978) evaluated coping resources (what people *are*) such as mastery, and self-esteem, and coping responses (what people *do*) in relation to psychological well-being. Everyday stressors in the domains of occupation, household economics and marriage and parenting were studied. They noted that coping *resources* were more effective in situations where the individual lacked personal control, such as work, and were least effective in personal areas such as home life. They also described gender differences in overall coping efficacy, with males possessing and using more effective coping mechanisms, and suggested that females are socialised into less effective ways of coping, consequently suffering more stress-related illness. Pearlin and Schooler found few differences in coping efficacy due to age, but noted that social factors such as education level and income enable people to maintain more effective coping, by improving both self-esteem and control over potential stressors.

Personal, social and situational characteristics may predispose the individual to adopt particular ways of coping, and to particular coping outcomes, in terms of the effects on psychological and somatic illness. In a community-based sample of 100 individuals, Folkman

and Lazarus (1980) analysed coping behaviour in relation to situational variables, such as health, work and family, and coping variables, using the 68 item 'Ways of Coping Checklist'. They found that individuals displayed more variability than consistency in coping in different situations, but where there was consistency this was attributed to personality traits. Unlike Pearlman and Schooler, Folkman and Lazarus described work-related problems as susceptible to personal control, and amenable to change through contact with other people. People were able to utilise mastery and control in a work situation (problem-focused coping), whereas family and health situations offered less opportunity for control, and emotion-focused coping tended to be used more frequently. Differences between the sexes in effectiveness of coping at work were related to the extent of control over the event rather than being directly attributed to gender. Similarly, as people become older, stressors tended to become more health-oriented and less work oriented, entailing a shift from problem- to emotion-focused coping, suggesting coping efficacy is therefore not directly attributable to age, but to shifts in the situational direction of the stressors.

1.4.5.3 Coping Strategies

Both problem solving and emotion regulation (problem and emotion focused coping) may be used simultaneously, in different combinations for different types of problem and in different contexts. There have been many attempts to develop a comprehensive list of coping strategies. Although there are many different approaches, the distinction between problem and emotion focused coping has been frequently utilised in scales of measurement of coping (Pearlman and Schooler 1978, Folkman and Lazarus 1980, Billings and Moos 1981, Stone and Neale 1984). Matheny et al. (1986) listed coping behaviours used to combat stressors, from a review of over thirty studies carried out in the 1970s and 1980s. From their taxonomy and meta-analysis they provided a wider classification of coping behaviours, listing *resources* as 'social support, beliefs/values, control, wellness and self-esteem', and *strategies* as 'preventative' (avoidance, altering behaviour, developing resources) or 'combative' (attacking, problem solving, lowering arousal). Overall, 'combative', (problem solving) efforts were seen to be more effective than 'preventative' (emotion focused) efforts. Folkman et al. (1986) also concluded that 'problem focused coping' was generally more effective than 'emotion-focused coping' in dealing with stressors. However, they found that 98% of

problems involved the use of both forms of coping in work, health, family and other situations

1.4.5.4 Gender Differences in Coping

Gender differences in terms of coping *resources* may lie partly in the different social and economic status of males and females. Gender differences in rates of physical and mental illness may also be explained by differences in coping. Females have been consistently shown to use more emotion-focused coping than males (Billings and Moos 1981, Gilbert and Holahan 1982, Pearlman and Schooler 1978), and to utilise more social support than males (Billings and Moos 1984, Stone and Neale 1984, Vaux 1985). Such studies imply that females generally use less effective, emotion-focused, preventative or avoidance *styles* of coping. However, whereas some studies have reported that females use less problem-focused coping (Folkman and Lazarus 1980, Stone and Neale 1984) others have found no differences between males and females in utilisation of this type of coping (Holahan and Moos 1982).

It seems hardly surprising that females have been found to employ more emotion focused coping, given that their domestic roles and gender roles are likely to have a greater nurturing and emotional component than those of males. Some studies have related gender differences in coping to the type of coping event, differentiating between coping in family and occupational contexts (Folkman and Lazarus 1980, Billings and Moos 1984) and between different sex-role stereotypes (Powell 1982, Blanchard-Fields et al. 1991). However, in an experimental study of coping among 59 female and 55 male undergraduates presented with a realistic, gender neutral coping task, Ptacek et al. (1994) found enduring gender differences in coping, while controlling for appraisal of the stressfulness of the event, other concurrent life stress, and the individual's sex role identity. This well-controlled research confirmed that females used more social support and emotion focused coping, whereas males used relatively more problem-focused coping, suggesting that males and females are socialised to cope with similar tasks in different ways.

1.4.5.5 Measurement of Coping

Measurement of coping strategies is notoriously difficult and several methodological problems arise. Some approaches aim to identify standardised coping responses to particular types of demand or problem, whereas others rely on subjective definition of a problem and aim to generalise from this, identifying consistencies or styles of coping across a range of problems (Billings and Moos 1981, Folkman and Lazarus 1980, Stone and Neale 1984, Miller et al. 1985). Studies often fail to pay attention to the 'time factor' in measurement of coping strategies, i.e. whether the events are 'one-off' or repeated, short or long-term. The duration of the event selected may influence reporting of the coping strategy used in response. Individuals may report use of coping styles, e.g. emotion-focused or personality-focused coping in response to persistent long-term stressors, whereas problem-solving coping may be used more frequently when stressors are one-off, or short-term. Perception of the meaning of a stressor is also likely to shift over time, depending on the success or failure of previous coping. Whereas measures of coping resources tend to emphasise the static, structural approach to coping, with the same approach being used across different types of stressors, it may be that coping is more fluid, and changes even within a particular situation as it is appraised and reappraised, as suggested by Folkman and Lazarus (1985).

Measurement of coping behaviours condensed over time may suffer from imperfect recall, exaggerating consistency in coping styles and blurring the distinction between different ways of coping. In an attempt to address this difficulty, Stone and Neale (1984) developed a measure of daily coping to look more closely at the way life events are appraised and reappraised. Minor events, regularly assessed are held to be more strongly related to psychological symptoms than more serious events and are therefore more important determinants of mood and health. In Stone and Neale's (1984) study, 120 subjects defined and rated a stressful event, the degree of control, desirability, degree of change, anticipation, meaning and frequency of the problem over a period of three weeks. Eight coping styles were identified which were used with reasonable frequency. 'Distraction', 'direct action' and 'situation redefinition' were used most frequently, whilst 'catharsis', 'social support', 'relaxation' and 'religion', were used less. More severe problems elicited less direct ways of coping, such as social support and relaxation, perhaps because they were perceived as less

amenable to change. Like Folkman and Lazarus, Stone and Neale (1984) suggested that individuals employ a range of coping styles. They also reported that males tended to use more 'direct action' coping, and females more 'distraction', 'catharsis', 'social support', 'religion' and 'relaxation'. One weakness of Stone and Neale's approach is its reliance on self-report data, and the fact that it does not address the relative effectiveness of different strategies. Billings and Moos (1981) related the use of different types of coping to the type and magnitude of life event, reporting that 'active-behavioural' and 'active-cognitive' coping strategies were used more than 'avoidance-coping', and that problem-focused were used more than emotion-focused coping styles. Males tended to select events in the 'economic' category, and females selected events in the 'illness' and 'children' categories as being more stressful, necessitating different coping resources. Billings and Moos found that both coping resources and social supports influenced individual functioning, concluding that chronic strains were more reliably related to dysfunction than life events.

1.5 Stress Outcomes, 'Strains' and Ill Health

Interdependence of mind and body systems have been an increasingly important facet of health beliefs in recent years, and much stress research has sought to establish causal links between psychological stress and physical and mental ill health. The physiological pattern of arousal as a response to stress involves both the endocrine system and the nervous system, and is seen as a disruption of the body's homeostatic state. The immediate reaction to stress is a state of mental and physical alertness, described as the 'fight or flight' mechanism, accompanied by the release of catecholamines into the blood stream. A second body system associated with the release of corticosteroids is described as the 'conservation-withdrawal' response and more commonly linked with chronic stressors, resulting in negative feelings of distress and not coping. Johnson et al. (1992) note that "*the adaptive response to stress appears to depend upon the quality (physical or emotional), strength and duration (acute, chronic) of the stimulus, as well as upon the constitution and state of the organism*" (page 116). Physiological changes in the availability of energy are paralleled by increases in heart rate, blood pressure and respiration via stimulation of cardiovascular and pulmonary function.

Chronic exposure to stressors can ultimately induce physiological changes with harmful metabolic, and cardiovascular consequences, compromised growth, peptic ulceration,

reproductive suppression and immuno-suppression. However, in contrast to Selye's findings, Johnson et al. (1992) note that all stressors do not result in identical physiological changes, suggesting that individual differences relate to genetic constitution and early life experiences. Behavioural responses to stress include altered cognitive thresholds, alertness and selective memory enhancement, stress-induced analgesia and suppression of reproductive and feeding behaviour, leading to loss of concentration, apathy, disrupted sleep patterns, and increased fatigue. Cognitive costs of stress include overloading and fatigue, continual monitoring of the environment, high levels of emotional arousal, or lowered motivation, lack of control and an increasing feeling of helplessness.

1.5.1 The Relationship Between Stress and Somatic Illness

Research studies suggest that there is a consistent link between stress and illness, although correlations are often rather low (Meier 1991). The experience of somatic illness is also inextricably linked with individual psychological characteristics, and measures of stress and mental ill health also inter-correlate highly, making measurement of direct effects of stress problematic.

The *cardiovascular system* is a main agent of physiological reactions to stressors, and there is a large body of research discussing the impact of stress on coronary heart disease (CHD), and the impact of the 'stress-prone' personality. Other correlates of stress may also be related to CHD. For example, the relationship between heavy smoking, excessive alcohol consumption and heart disease is well established. Studies of the links between *cancer* and stress have also been carried out, although research is inconclusive as to the existence of direct causal links (Burgess 1987). A study by Ramirez et al. (1989) found a relationship between severe life events and the recurrence of breast cancer, although this link was not significant for non-severe events, whereas Barraclough et al. (1992) found no such link between psychosocial stress and breast cancer relapse. Eysenck (1988) suggested that the *type* of stress may be critical, with severe *acute stressors* increasing the likelihood of development of cancer, whereas *chronic stress* may have a protective "inoculation effect".

Different personality types have been associated with different types of disease. Whereas Type A behaviour, anxiety and aggression have been linked with CHD, traits such as hopelessness, helplessness, neuroticism and the inhibition of emotion have been related to the development of cancer and the progression of the disease (Grossarth-Maticek et al. 1988, Eysenck 1988, Faragher and Cooper 1990)

Psychosocial stress also appears to suppress *immune function* whereby activation of the 'fight or flight' mechanism, and the 'conservation-withdrawal' body systems are linked to lowered immunity and resistance to illness. Both acute (e.g. exam stress) and chronic stressors (e.g. unemployment, marital conflict) have been associated with reduced immune response (Frankenhaeuser 1983, O'Leary 1990), which can result in increased susceptibility both to minor infections such as the common cold and more serious illness such as asthma, diabetes, HIV and AIDS and rheumatoid arthritis.

1.5.1.1 Gender Differences in Stress Reactivity

In terms of reactivity to stress, males have been shown to exhibit greater physiological response to stressors in terms of cardiovascular change (e.g. blood pressure, heart rate, blood lipids) and neuroendocrine change (e.g. urinary catecholamines) (Stoney et al. 1987). The importance of reproductive and hormonal change in females in determining stress responses has also been discussed (Davis and Matthews 1990, Wheatley 1991). A series of studies comparing stress reactivity of males and females on comparable tasks in laboratory settings, at both mild and severe levels of stressors found males to be consistently more reactive to stressors as measured by secretion of epinephrine (Frankenhaeuser 1983). It has been suggested that physiological differences between males and females' stress response has a behavioural rather than genetic basis, as a result of socialisation into different social and sex-roles. In support of this hypothesis, later research by Frankenhaeuser et al. (1989), suggested that in a work setting fewer differences between males and females in stress reactivity as measured by excretion of urinary catecholamines were found. However, a later experimental study by Matthews et al. (1991) using tasks previously described to subjects as assessing either 'masculine', 'feminine', or 'neutral' skills, (i.e. a mirror tracing test and a Stroop task) found that the gender-relevance of the task was not important, and suggested that males

exhibited greater reactivity to stress in cardiovascular, neuroendocrine and lipid responses under all conditions

1.5.2 Stress, Depression and Anxiety

“Anxiety is how the individual relates to stress, accepts it, interprets it - stress is a halfway station on the way to anxiety. Anxiety is how we handle stress.” May (1977)

The terms ‘stress’ and ‘anxiety’ are often used synonymously, and measures of anxiety are used as surrogate measures of stress. Although anxiety and depression have distinct clinical definitions, (e.g. in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)), both anxiety and depression are shown to correlate separately with measures of stress (Meier 1991), with each other (Watson and Kendall 1989), and with measures of negative affectivity (Watson 1988), suggesting that they may not be statistically distinct concepts. Anxiety and stress share common symptoms, including tension, chronic arousal, fatigue, worry, nervousness, shortness of temper, irritability, and sleep disturbance. Similarly, characteristics of exposure to chronic stressors such as feelings of helplessness, demoralisation, fatigue and loss of pleasure, are also common symptoms of depression. A study of 93 undergraduate students by Meier (1991), was carried out to examine the construct validity of stress, anxiety and depression measures (including the Maslach Burnout Inventory, State-Trait Anxiety Inventory and The Minnesota Multiphasic Personality Inventory Depression Scale), and found them to be highly intercorrelated. Meier criticised the ‘monomethod bias’ in the almost exclusive use of self-report interviews and questionnaires in existing stress research, as a source of confounding in the reporting of stressors and stress outcomes, and related this to a failure to account for background variables such as neuroticism or negative affect.

A series of studies conducted by the Maudsley Hospital Stress Clinic (Wheatley 1993) found that almost half of all patients referred by their GP for ‘stress’ were suffering from depressive illness, and ‘stress ratings’ decreased significantly following treatment with antidepressants. In their review of coping, Matheny et al. (1986) describe the ‘anxious reactive personality’ as being hypersensitive to cognitive and physical feedback during stress, over-reacting to stressors by catastrophising, so that stress persists even after the stressor is gone. An over-

awareness of bodily sensations, such as heart pounding, in such individuals increases cognitive appraisal of the threat of the stressor

Depue and Monroe (1986) also emphasise the impact of background personality and affective states such as anxiety and depression on an individual's reaction to stressors, with highly anxious people reporting more symptoms of stress and tending to perceive their environment in a more demanding way. They note that individuals with anxiety or depression are characterised by a chronic-intermittent pattern of illness, and also conclude that anxiety, depression and negative affectivity are important confounding variables in the measurement of stress.

The impact of stress on the individual has been mainly studied in two domains, firstly in terms of everyday life, and secondly in occupational settings. Set against a background of changes in the world economy since the Second World War, the employer's need for increasing work efficiency and productivity has developed alongside a growth in awareness of employees' needs and rights in the workplace. The issue of occupational stress has therefore increased in importance and generated a wide range of research aiming to identify organisational and individual stressors and means of coping with stress, as discussed in the following chapter.

CHAPTER 2 :
Occupational Stress

2.1 Introduction

Based on McGrath's (1976) definition of stress as an interaction between the person and the environment, Cox (1985) suggested that occupational stress exists in the person's recognition of their inability to cope with demands relating to work, and in their subsequent experience of discomfort. In this chapter, occupational stress will be discussed from this interactionist perspective, investigating sources of occupational stress, potential outcomes of occupational stress, and individual characteristics which may affect such outcomes.

The fact that occupational stress not only impacts on the individual, but also on the organisation in which he or she works, explains the economic imperative in the study of stress in the workplace. Occupational stress has been said to cost industry millions of pounds per annum in terms of ill-health and absenteeism. The UK is still at the top of World Health Organisation league tables in terms of mortality due to coronary heart disease. Cooper (1986) noted that over £1.3 billion is lost annually to British industry as a result of alcoholism. In 1994, employers lost around £10 billion due to sickness absence (CBI 1995), and Kearns (1986) has suggested 60% of absenteeism is stress related. More recent figures provide lower estimates of between 37% of absence for manual workers and 55% of absence for non-manual workers being related to occupational stress and mental ill-health. (CBI 1995). High staff turnover rates, employee 'burnout', apathy and lowered worker morale, have also been related to occupational stress. The fact that many employers are currently investing heavily in 'stress management' programmes for employees is an indication of the costs to industry of stress-related illness. An 'industry' of techniques or therapies for stress management, including relaxation therapy, counselling, diet, biofeedback, self-awareness training etc., have grown up in popular culture in response to the problems of dealing with occupational stress (Cooper et al. 1996). However, the lack of consensus as to what extent physical or psychological illness is occupationally-induced, and the lack of clarity regarding the definition of 'stress', questions the validity of some of the above figures. Causal links between occupational stress and physical and mental ill-health are by no means confirmed. The more positive aspects of occupational stress as a source of stimulation or motivation in work settings are much less frequently discussed.

Over the past thirty years, the multidisciplinary study of occupational stress has engendered a vast body of research focusing on many types of occupation. Although comparisons have been drawn between occupations in terms of their 'stressfulness', this approach does not take account of the lack of homogeneity of characteristics within and between different occupations, which may make these comparisons rather meaningless. Gender differences are often ignored when occupational characteristics are discussed although males and females may fulfil very different roles and bring different individual and social characteristics to the same occupation type.

Caplan et al. (1975) used the concept of 'lack of fit' to explain why individual employees reacted differently in terms of experience of work stress, psychological stress and physical illness when subject to the same objective levels of work. In terms of job complexity, and workload, Caplan et al. argued that a person-environment fit measure was a better predictor of stress than either environmental factors or personality factors alone, since it took into account the interaction between the two factors. Lack of fit in terms of job complexity, workload, role ambiguity and responsibility for others, was also associated with lowered job satisfaction.

2.2 Sources of Job Satisfaction

The relationship between occupational stress and job satisfaction is complex and particular occupational characteristics can be both sources of stress and satisfaction. Job satisfaction has many qualities, and has been shown to be related to individual characteristics such as age, gender, mental and physical well-being and overall life satisfaction (Clark et al. 1996), in addition to work characteristics.

2.2.1 Occupational Characteristics

Work can be defined both in terms of the inherent characteristics of a particular job, and of the wider organisational environment. Many researchers have identified features which make a particular job stressful or satisfying (Cooper and Marshall 1976, Hackman and Oldham 1976, Warr 1991). Such features include the degree of responsibility, autonomy or control, task variety, task meaning or salience, skill use, 'extrinsic' considerations such as status,

financial reward, and opportunity for career progression. Maslow (1943) described the employee as having higher order and lower order needs for personal satisfaction. Higher order needs being self respect, esteem and fulfilment, and lower order needs, being physical safety or comfortable working environment. Although lower order needs are generally met, Maslow argued that the higher order needs are more important for overall job satisfaction.

The Job Characteristics Model (Hackman and Oldham 1976) described 5 core criteria pertinent to attitudes to work (i) *Skall variety*, the number of different task activities required, (ii) *task identity*, being able to see a piece of work from start to finish, (iii) *task significance*, impact on the lives of others, (iv) *autonomy*, or degree of personal freedom, (v) *feedback* of information regarding performance. Individual differences in three areas, 'meaningfulness of work', 'responsibility for outcome' and 'feedback of results' were shown to influence positive affect, and reinforce motivation for future performance.

Warr (1991) divided job satisfactions into those which were 'intrinsic' (inherent in the job) and 'extrinsic' (outside factors in either the working environment, or the wider environment). Characteristics contributing towards satisfaction were divided into (i) *Opportunity for Control* - the degree of autonomy, power and participation in decision making. Greater control of intrinsic characteristics implying greater satisfaction and self esteem. (ii) *Opportunity for skill use* - increases self-esteem and morale. (iii) *Goals and task demands* - the performance of the job may have too low or too high a demand, although it is suggested that heavy workload only leads to strain where the individual has poor coping resources. 'Underloading', tasks which lack variety or are boring or repetitive, or having too little work to do are also sources of dissatisfaction. (iv) *Environmental Clarity* - understanding of the work environment and clear information and feedback about expected work behaviour. Uncertainty about roles or outcomes of actions at work, and security of job tenure is also related to job satisfaction. (v) *Financial rewards* - should be perceived as a fair reflection of the value of the job to maintain self-esteem. Poor pay is obviously also a source of anxiety in maintaining standards of living. (vi) *Physical security*, a safe and comfortable working environment, for example in terms of lighting, humidity, equipment and noise levels. (vii) *Opportunities for social contact* and support from both managers and co-workers are also

important. Conversely, there may also be a need for privacy and space to work. Occupational status, both within and outside the workplace is also a potential source of job satisfaction.

The models of both Hackman and Oldham (1976) and Warr (1991) emphasise similar job attributes stressing the intrinsic characteristics of skill use, autonomy, feedback and workload as being important for job satisfaction. There may also be gender differences in the appraisal of the value of these characteristics to male and female workers.

2.2.2 Gender Differences in Job Attribute Preferences

Changes in the social and economic structure of work and the family in the 20th century have been reflected by changes in patterns of employment, for example, increases in part-time working and self-employment as a proportion of total employment, shifts away from manual to non-manual work and from manufacturing towards service industries, and increase in the overall proportion of females in the labour force. Early research argued that males and females valued work differently. Females were said to have more interest in extrinsic characteristics of their work, such as relationships with co-workers, suitable hours and working conditions, whereas for males opportunities for career advancement, good pay, and opportunity for skill use were preferred (Jurgenson 1947). This view reflected the post-war family social structure where males were the main breadwinners and participation in the work force was not encouraged for females, particularly those who were married or had young children. Females also tended to participate in the workforce at lower levels of the job hierarchy, and in specific types of work. As the relative position of women in the work force changed, it was suggested that gender differences in work attribute preferences were minimised if extrinsic factors such as job level, education and age were held constant (Brief and Aldag 1975, Bartol and Manhardt 1979).

In a study of 428 MBA candidates (224 females, 204 males), Bigoness (1988) studied gender differences on the job attribute dimensions of 'professional growth', 'work environment' and salary. Contrary to previous research, Bigoness found that females placed more value than males on 'challenging work', and 'professional growth', whereas males

placed more value on salary, 'realising potential' and 'business prospects'. There was no gender difference in terms of the value of the work environment. However, females did value relationships at work more than men, and both groups rated intrinsic job qualities higher than extrinsic qualities. This study focused on a sample in a narrow occupational grouping with little job experience (mean 2.6 years) and had a relatively low response rate (54%), so may not be generalisable to other groups of workers. The study also failed to account for background gender-role factors, for example marital and parental status, which may have influenced attribute preferences.

A study by Wiersma (1990) in a sample of 316 employed parents using a child day care centre, did address the question of gender roles, revealing gender differences on three out of four 'extrinsic' job attributes, career orientation, work conditions, parental support, but not on intrinsic rewards. Males were seen to preferentially value a good salary, career advancement and authority over others, whereas females valued good working relationships, work accomplishment and personal growth. Females also valued parental support from the workplace (in terms of hours off for sick children, childcare) more than males, and experienced greater work/domestic 'role conflict' than males, although this study, which also had a low response rate (40%), failed to control for gender differences in working hours, or levels of domestic responsibility. These studies suggest that gender differences in preferences for job attributes may depend on the relative degree of commitment and responsibility for both occupational and domestic roles, in males and females.

2.3 Sources of Occupational Stress

Many efforts have been made to classify and identify common conditions within the organisational environment which affect occupational stress (Cooper and Marshall 1976, Beehr and Newman 1978, Ivancevich and Matteson 1980, Quick and Quick 1984). Such classifications have broad categories in common, for example, identification of intrinsic job demands and characteristics, features of the occupational environment, career structure and relationships at work, role within the organisation, and the relationship between work, and extra-work characteristics. Earlier studies adopted a 'stimulus-response' model, aiming to identify stressors common to different occupations, and to compare occupations in terms of

their 'stressfulness', or in terms of workers' response to such stressors (Caplan et al. 1975) More recent studies have used a transactional approach considering the individual worker's appraisal of what is stressful, in relation to their coping ability and resources (Folkman and Lazarus 1980, Frese and Zapf 1988)

2.3.1 Job Characteristics

Many studies have aimed to identify day to day characteristics of occupational tasks which are sources of stress. In a major study of over 2,000 males in a range of twenty three white and blue-collar occupations in the USA, Caplan et al. (1975) compared levels of stress between occupations, identifying characteristics such as low skill use, and routine work as being particularly stressful in manual jobs, such as assembly line workers, fork lift drivers and machine attendants. These types of stressors were less important for other workers such as professors, family physicians and professional workers, in jobs which involve the use of a wider range of skills and also more personal contact or responsibility for others. Overall, machine-paced assembly line workers had the highest stress levels in Caplan et al's study. Jobs with a high degree of responsibility for the safety of others, such as air traffic controllers, and medical professionals were identified as particularly stressful (Caplan et al. 1975). Cox (1980) has also suggested that lack of mental stimulus, and 'under-loading' of work is stressful, describing assembly line work as repetitive and demanding, requiring high levels of concentration, but with workers being isolated from their work mates by the noise and pace of the production line.

Work may also be characterised as physically stressful, for example where physical danger is involved, or involving repetitive actions which may lead to injury. Excessive noise, poor working environments, overcrowding or lack of privacy may contribute to work overload. Poor environmental conditions have been shown to be related to physical and mental health of workers, and studies of 'sick building syndrome' have identified female workers as being more susceptible to ill health than males as a result of exposure to factors such as increased paper handling, poor ventilation, and VDU work (Stenberg and Wall 1995). Overall workload, work hours, (e.g. long hours or shiftwork), and being under time pressure have been identified as stressors in many studies. A useful distinction is between quantitative

overload (too much work) and qualitative overload (too difficult) (French and Caplan 1970, Groenewegen and Hutten 1991) Although quantitative overload has been linked with strains (Margolis et al. 1974), a heavy workload is not necessarily a predictor of stress (Karasek 1979), and overall level of commitment or involvement in work may be more important

Control or autonomy over work tasks has also been seen as related to well-being or job satisfaction (Spector 1986, Frese 1989, Warr 1991) Karasek's (1979) studies of a cross-section of the workforce in the USA and Sweden identified low levels of control or 'decision latitude' over work as being related to increased levels of job strain, including exhaustion, depression, absenteeism and work dissatisfaction, whereas high levels of intellectual demand were associated with reduced strain. It should be noted that Karasek's samples were chiefly male, so conclusions may not apply to female workers In a large-scale study of male and female industrial workers in the USA, Piltch et al. (1994) reported that lack of job control was significantly related to mental distress for males, but not for females, whereas other researchers have associated lack of control with poorer mental health for females (Zappert and Wemstem 1985)

Part-time Working

Approximately 6% of males and 44% of females in the work force in the UK currently work part-time (Equal Opportunities Commission 1993) Apart from shorter hours, part-time work may be less demanding in terms of responsibility, autonomy or challenge, but also less satisfying, and less secure than full-time work. Few studies have discussed the implications of full- or part-time working One such study by Anderson-Kulman and Paludi (1986) studied role strain and coping outcomes for a sample of 204 married and single white-collar working mothers using a child day care centre No differences emerged between those who worked full-time or part-time in terms of reported role strain or coping However, this study had a low response rate, (43%) and included subjects of a similar occupational level, and from a narrow geographic area, so was perhaps not generalisable

2.3.2 Structure and Features of the Organisation

The size, structure, climate, and dominant managerial style of the work organisation may be related to levels of stress (Beehr and Newman 1978). Democratic and open, rather than hierarchical and closed management structures are seen to lead to greater participation of the workforce in decision making and have been shown to improve job satisfaction, productivity, performance, and reduced turnover of staff (Hunt 1979). Changes both in the national economy and structure of organisations have been identified as contributing towards increased work stress (Cooper et al. 1996). In the UK, the 1980's and 1990's have been characterised by financial retrenchment, lack of forward planning, increased job turnover and lowered morale in both public and private sectors. The resultant increase in job insecurity has engendered role ambiguity and uncertainty in both management and workforce, and has been related to increased rates of depression and anxiety in both managers and professionals (Hunt 1986, Caplan 1994).

2.3.3 Career Development

In early career development, concerns of establishing a new role, or learning new skills may coincide with the life stage where establishment of personal relationships and family life is also a priority. Conflict in time-allocation between work and family life has been shown to be a source of particular tension at this stage. In a study of 532 male middle managers, Bartolome and Evans (1979) described tension between work and family time. Although most male managers in the study reported attaching an equally high value to both work/career and family/leisure, they actually devoted a much higher proportion of their energies to work, with one eighth devoting as much as 90% of energy to work. However, degree of dissatisfaction with the division of energies between work and home was greatest for the 'mid-career' group, and less for those at earlier and later career stages. Individuals in later stages of their career may also find dealing with new technology, or competing in the workplace increasingly stressful.

Conversely, females have been shown to limit both working hours and career development as a means of coping with the domestic demands (Zappert and Wenstem 1985, Karambayya and Reilly 1992). Career 'transitions' have also been shown to be stressful in a female sample.

(Latack, 1984) Sex discrimination and career blockages, i.e. the ubiquitous 'glass ceiling' are most evident for females in the work force (Nelson et al. 1990, Davidson 1991) Cooper and Davidson (1982) suggested that organisational barriers to career progress are greater for female managers who may be isolated or appear to be a poor promotion risk in terms of child rearing commitments or lack of geographical mobility

2.3.4 Relationships at Work: The Role of Social Support

Conflict in relationships with colleagues at work has also been identified as a source of occupational stress. Research into 'burnout' in health professionals has suggested that interactions with co-workers are more stressful than interactions with patients (Leiter and Maslach 1988). However, few studies have related conflict in working relationships to either physical or mental ill health.

Although 'social support' has been identified as an intervening variable between occupational stressors and strain (LaRocco et al. 1980, Revicki and May 1985), there is less evidence of social support having a direct effect on stressors (Marcellisen et al. 1988). Caplan et al. (1975), in their sample of males in a range of occupations, measured social support from supervisors, others at work, and friends and relatives, together with level of participation in decision making at work. Each type of support was linked to alleviated stressors and fewer strains, but they found no relationship between levels of support and physiological indicators of stress such as blood pressure and cholesterol levels. Work supports accounted for more variance in occupational stress than home supports. Support was also found to be related to occupational and educational status, with individuals in higher work grades reporting greater support, and less stress.

Females have been shown to have greater social support overall than males (Shinn et al. 1984, Frankenhaeuser et al. 1989, Piltch et al. 1994) which may be of particular importance in maintaining the beneficial health effects of employment for females (Repetti et al. 1989). However, in contrast with Caplan's (1975) studies of male workers, Frankenhaeuser et al. (1989) noted that both males and females at higher occupational levels found it more difficult to obtain social support from superiors, and also lacked social support from colleagues,

whereas women at lower occupational levels reported greater social support than both male colleagues and female managers. Social support may have the benefit of increasing individual motivation, altering cognitive appraisal of problems, have beneficial affective consequences and increasing coping resources. However, what is meant by social support is not always clearly defined. A clear distinction should be made between peer, family and work-related support, and if support is work-related whether it comes from co-workers or supervisors.

In an analysis of occupational stress and social support, Marcellisen et al. (1988) studied over 2,000 employees of 21 companies in the Netherlands, and noted that workers at higher (i.e. professional) and lower levels (i.e. manual) perceived less social support than those in mid-level jobs, with co-workers consistently providing more support than managers. However support from managers had a greater benefit in reducing job stressors (role overload, role conflict), than support from co-workers. Marcellisen et al. found no direct effects of social support in reducing strains (affective, emotional and worry), although individuals reporting more strains had lower pre-existing levels of social support. This study provided a comprehensive analysis of the relationship between social support and stress in a work context. Unfortunately, no analysis of results by gender was given.

28/2/05.

2.3.5 Role Conflict and Ambiguity

The individual's perception of the clarity and definition of their role in the organisation is an important indicator of occupational stress. Kahn et al. (1964) identified both 'role conflict' (conflicting job demands), and 'role ambiguity' (lack of clarity of objectives) as predictors of job dissatisfaction, job-related tension, and lower self-confidence. Role conflict and ambiguity have been found to be positively correlated with occupational stress (strains) and job dissatisfaction (Kahn et al. 1964, Jackson and Schuler 1985). Conflict can occur within roles and between multiple roles occupied by the individual. For doctors for example, conflict may exist within aspects of their medical role as a healer, and manager of medical budgets, between the demands made upon them by health service managers and patients, and between their working role and that of spouse and parent. Role conflicts have generally been perceived as a greater source of stress for females because of their multiple domestic and work role responsibilities (Nelson et al. 1990, Sekaran 1983, Kopp and Ruzicka 1993).

There may be additional sex-role conflicts for one gender working in an environment culturally dominated by the other (Cooper and Davidson 1982). Discrimination may also exist on racial or other prejudicial grounds.

2.3.6 Relationship between Work and Home

The role of non-work characteristics as predictors of occupational stress is a relatively new area of study, which has emerged largely as a response to the greater involvement of females in the work force. Since males have traditionally filled the main breadwinner role in western societies, there is also a cultural expectation that males will give prime consideration to work over family life, whereas females are expected to allow family concerns to take precedence over work. The extent of role conflict may therefore be determined by the primacy of work demands for males, and family demands for females (Cooke and Rousseau 1984, Pleck 1985, Parasuraman et al. 1992, Barnett et al. 1995), although the extent of males' and females' involvement and responsibility in the work and domestic spheres may obviously vary due to cultural or social class norms.

The relationship between work and home life is seen as bi-directional. Satisfactions and stressors experienced at work are seen to affect satisfactions and stress in home life, and vice versa. There have been two main approaches in studies of the interface between work and home life. The first takes the view that the role demands of work and home domains are additive, and negatively perceived overload leads to strain and illness (Goode 1974, Sekaran 1983, Bhagat et al. 1985, Greenhaus and Parasuraman 1987). Other researchers take an alternative view that multiple roles complement one another, resulting in increased well-being (Thoits 1983, Cooke and Rousseau 1984, Verbrugge 1986), although it has been noted that individuals with greater prior well-being may be more likely to occupy multiple roles than those with prior reduced well-being. The home/work relationship may also be seen as 'compensatory', where problems or deficiencies in one domain are accounted for in the other (i.e. a negative association), or subject to a 'spillover' effect, where attitudes or behaviour employed in one domain are carried over and enhance the other (i.e. positive association) (Near et al. 1980, Stames 1980, Cooke and Rousseau 1984, Greenhaus and Beutell 1985).

Based on Pleck's (1977) concept of the asymmetric permeability of roles at work and home, whereby work roles are seen as having a greater influence on home life than vice versa, a recent series of studies by Frone et al. developed a model of work-family conflict in a community sample of 631 individuals. This research confirmed that work interfered with family life more frequently than family life interfered with work, with no significant variation in this respect between males and females in the sample (Frone et al. 1992a, 1992b, 1994). Work and family satisfaction were found to be non-causally related, i.e. sharing a common cause or causes. Whereas most studies previously investigated the impact of work on family life, Frone et al. emphasise the importance of also investigating family to work conflict, seen as having greater importance for mental well-being via the determination of personal goals and self-identity in the work environment. Although work to family conflicts were found to be related to distress and depression in Frone et al.'s studies, they failed to consider other variables within the individual which may explain the common causation of satisfaction or distress at work via the investigation of features such as positive or negative affect, locus of control or personality.

2.3.6.1 Dual Career Partnerships and Stress

Couples who are both working full-time, and especially those with young children, are subject to particular stressors between work and home. Although such stress may be compounded, an alternative view is that experience of similar types of problems may promote greater empathy and mutual support between couples. Where both partners pursue full-time careers, domestic roles are subject to greater question and change. Hall and Hall (1980) suggested that stress may be lessened if couples phased their career stages, if they did not have children, or if they worked in similar or related fields. Other studies have related dual career relationships to increased role conflict for both male and female partners (Sekaran 1983, Steffy and Ashbaugh 1986). Karambayya and Reilly (1992), in a study of 39 dual-earner couples with young children, noted that most couples maintained a gender-based division of domestic roles, with females taking major responsibility for the family, even where both partners worked full-time. More wives than husbands restructured their work on a regular basis to fit in with family demands by altering hours of work, restricting work-based travel and limiting evening and weekend work. Husbands and wives showed the same levels

of work involvement and job satisfaction, although husbands reported higher levels of stress where the wife had a high degree of work involvement. This was a limited small-scale study, using an existing data set of high-income professional couples, and results may therefore not have wider applicability to work roles with lower autonomy where job restructuring is not possible.

2.3.7 Summary of Studies of the Home/Work Interface

There have been many recent studies attempting to describe the relationship between the occupational and domestic domains in terms of stressors and strains. A summary of some of these studies of the home/work interface is included below in Table 2.1 (pp 41-47). Twenty-three studies have been included in this review as being representative of the many studies in this subject area. The studies selected represent the time period from 1983 to 1996, with the majority having been carried out in the USA. This summary reveals the complexity of the relationship between occupational and domestic stress, and also notes some of the conflicting findings of research in this area. The studies presented reflect the bias towards the female perspective in this area of study, including either all-female or dual career male/female samples. The diversity of measures used also illustrate the range of approaches adopted in the measurement of home/work stress.

In addition to the date, title and authors, for each study, information is presented where available regarding sample sizes, subjects' gender, marital status and occupation and overall response rates for each study. Where previously validated measures were used, the original authors are noted in parentheses, otherwise it can be assumed that measures were specifically constructed for the study in question.

Table 2.1 : Summary of Studies of the Home / Work Interface

Key : M = Male, F = Female; FT = Full-time, PT = Part-time; RR = Response Rate; GHQ (General Health Questionnaire) CCEI (Crown-Crisp Experiential Index) STAI (State-Trait Anxiety Inventory) CES-D (Center for Epidemiological Studies Depression Scale)

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1983, USA	Gray JD, Lynch M.	The married professional woman : an examination of her role conflicts and coping strategies	N=232, F, RR 80.6% Married, Doctors, lawyers, professors Postal questionnaire	1 Coping strategies questionnaire (Hall 1972) 2 Attitudes, role conflict	77% reported home/work strains Family helping, lower standards reduced strain. Most showed successful coping
1983, USA	Sekaran U	Factors influencing the quality of life in dual career families	N=127, M/F Dual career couples, RR 97% (previously agreed sample) professionals; business, hospital, university. Postal questionnaire	1 Job Description Index (Smith et al 1969) 2 Life Satisfaction Scale (Kornhauser 1965) 3 Multiple Role Stressor Scale 4 Enabling (Spouse help) 5 Work/Family Integration 6 Self-Esteem (Rosenberg 1965) 7 Career Salience (Sekaran 1982) 8 Job Involvement	M had more job satisfaction, life involvement, self-esteem, job involvement, longer hours. F had more multiple role stress. Work variables explain less variance than non-work variables in both life and job satisfaction . Significant gender differences found on only one work related variable, 'discretionary time' .
1983, USA	Thoits P.	Multiple identities and psychological well-being : a reformulation and test of the social isolation hypothesis	N=720 M and F RR = 77% Re-interviewed community cohort (at 2 time periods)	1 Identity accumulation (number of roles) 2 Psychological distress scale (MacMillan 1957)	More roles related to less psychological distress for both M and F.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1984, USA	Cooke R, Rousseau D	Stress and strain from family roles and work role expectations	N=200 63% F, 37% M. Selected 'replacement' sample to make up 200. Teachers, Interview plus questionnaire	Quality of Employment Survey (Quinn and Staines 1979) 1 Work role expectations 2 Family roles 3 Work overload 4 Job Satisfaction 5 Life Satisfaction 6 Physical Strain	Work expectations and overload correlated with job dissatisfaction. More roles led to increased role conflict, but not related to reduced physical well-being. Parents had lower tolerance of work demands. (No analysis by gender)
1985, USA	Kandel DB, Davies M, Raveis VH.	The stressfulness of daily social roles for women : marital, occupational and household roles.	N=197 F, RR 81% 66% married/cohabiting Urban population sample Structured interview.	1 CES-D Depression Scale (Radloff 1977) 2 Psychosomaticism Scale (Melinger 1978) 3 Role specific stressors 4 Role specific strains	Married F had less depression than single. Working married F had least depression and psychosomatic symptoms. Higher stress in work roles than family roles, but strains in family domain had most severe consequences.
1985, USA	O'Neill CP, Zeichner A.	Working women : a study of relationships between stress, coping and health	N=230 F, RR- not given Business/professionals Working full-time. Postal questionnaire	1 Job Related Tension Index (Kahn et al 1964) 2 Work Environment Scale (Moos and Insel 1974) 3 Coping Checklist (Billings and Moos 1981) 4 Health Outcomes: Beck Depression Inventory (Beck 1972) STAI (Spielberger 1970)	Job distress predicted physiological and psychological strain (depression, anxiety). Avoidance coping, emotion focused coping related to job distress and poor health.
1985, USA	Zappert LT, Weinstein HM	Sex differences in the impact of work on physical and psychological health	N=123 , 73F, 50M RR 47%. business school graduates, Questionnaire survey	1 Job Tension Index 2 Coping Style Index 3 Coping Strain Index 4 Role Conflict 5 Health Status	F had greater stress on job tension, coping strain, role conflict, and poorer (mental) health. No M/F differences in coping styles.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1986, USA	Anderson- Kulman RE, Paludi HA.	Working mothers and the family context : predicting positive coping.	N=204 F, RR 43% Married/single, white collar, FT and PT working, aged 20-42. Child care users. Questionnaire survey.	1 Family Environment Scale (Moos and Moos 1981) 2 Child care satisfaction 3 Job satisfaction 4 Job flexibility 5 Role strain	Neither marital status, nor FT/PT hours predictor of role strain or family function. Role strain related to both home and work. Better coping was associated with family cohesion and job satisfaction.
1986, USA	Steffy B, Ashbaugh D	Dual career planning, marital satisfaction and job stress among women in dual-career marriages.	N=118, RR = 59% Married F nurses, spouse working FT. Questionnaire survey.	1 Dual career planning 2 Spouse support 3 Problem solving effectiveness 4 Inter-role conflict 5 Job stress 6 Marital satisfaction	Family behaviour influenced work stress. Work-family inter-role conflict led to increased job stress and lowered marital satisfaction. More planning, spouse support reduced stress and role conflict.
1987, UK	Lewis SN, Cooper CL.	Stress in two-earner couples and stage in the life cycle	N=304, RR 65%. (152 semi-professional, semi-skilled couples), working full-time. 45 = no child, 47 = 'transitional', 60 = child under 5. Questionnaire survey.	1 Two-earner stressor questionnaire (including home/ work interface) 2 Type A behaviour (Davidson and Cooper 1983) 3 Stress Manifestation Questionnaire : Mental III-health (CCEI, Crown Crisp 1979; GHQ, Goldberg 1979) Job Satisfaction, (2 items) Life Satisfaction (4 Items) Alcohol consumption.	F parents had greater home/work stress than M. Parents less satisfied with partners contribution to housework, and more difficulty with work schedules than other groups. Fathers more job dissatisfaction than mothers. F had greater anxiety and depression. Type A behaviour predicted anxiety, depression. Multiple roles associated with increased satisfaction

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1989, Sweden	Frankenhaeuser M, Lundberg U, Fredrikson M, Meilin B, Tuomisto M, Myrsten A.	Stress on and off the job as related to sex and occupational status in white collar workers	N=60, 30 F, 30 M Selected replacement sample : white collar workers; middle managers and clerical workers Questionnaire survey, interviews and health check.	'Volvo Monitor' (Zetterberg et al 1983) 1 Work Autonomy/ Soc.support 3 Workload (work and home) 4 Conflict, stress, job satisfaction 5 Bem Sex Role Inventory (Bem 1974) 6 Type A behaviour (interview) 7 Psychosomatic symptoms : health status, blood pressure, heart rate, urine, lipids	Managers greater autonomy, F clerical workers most social support. Males and managers had heavier workload, F managers most home/work conflict, Type A behaviour, androgyny. Physiological measures were elevated at work for all groups, slower to return to normal for F managers.
1989, USA	Johnson J	Female clerical workers perceived work and non-work stress and dissatisfaction as predictors of psychological distress	N=108 F, RR 73% clerical workers, FT. (cross-sectional, voluntary sample)	1 Stress Diagnostic Survey (Ivancevich and Matteson 1979) 2 Life Experiences Survey (Sarason et al 1978) 3 Job Descriptive Index (Smith et al 1975) 4 Profile of Mood States (McNair et al 1981) 5 Non-Work Satisfaction (Andrews and Withey 1976)	Non-work variables (stress, dissatisfaction) better predictor of psychological distress than work variables. Work and non-work variables (stress, dissatisfaction) were highly correlated.
1990, Canada	Greenglass ER, Burke RJ, Ondrack M.	A gender-role perspective of coping and burnout.	N=473, 227F, 243 M, RR 57% Teachers, all grades. Postal questionnaire.	1 Work setting characteristics (Burke et al 1984) 2 Sources of stress (Cherniss, 1980) 3 Maslach Burnout Inventory (Maslach and Jackson 1986) 4 Coping Inventory (Wong and Reker 1984)	M had greater work stress, especially depersonalisation than F M had poorer coping than F Males with young children had higher levels of burnout than F.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1990, USA	Nelson D, Quick JC, Hitt MA, Moesel D	Politics, lack of career progress and work- home conflict : stress and strain for working women.	N=195 F, RR 25% Personnel managers, (oil, gas, banking, manufacturing etc.) Mean age approx. 30 Postal questionnaire.	1 Stress Diagnostic Survey (Ivancevich and Matteson 1980) 2 Home-work conflict, 3 Organisational Resources (Quick and Quick 1984) 4 Strain - Social Dysfunction, 5 Sleep dysfunction (GHQ items), 6 Symptom Checklist (Somatic symptoms, Derogatis 1977) 7 Job Diagnostic Survey (Hackman and Oldham 1976)	Sources of stress, politics, lack of career progress, negatively correlated with organisational resources available. Home/work conflict is not related to politics, career, job satisfaction or job resources, but is related to strain symptoms.
1990, USA	Wiersma UJ	Gender differences in job attribute preferences : work - home role conflict and job level as mediating variables	N=316, 161F, 155 M RR 40%. Employed parents using child day care centres 83% of F and all M worked full-time. Questionnaire survey	1 Job Attributes Questionnaire (Manhardt 1972) (4 factors Career Orientation, Work Conditions, intrinsic rewards, parental support.) 2 Work-home role conflict. 3 Job and salary level	Gender differences on 3/4 attributes. F valued parental support, working conditions. M valued career orientation. F greater home-work role conflict. Job level mediates between gender and attribute preferences.
1992, Canada	Barling J, MacEwen KE	Linking work experience to aspects of marital functioning	N=190, 110 F, 80M 4th phase of larger study cohort. Random population survey.	1 Job insecurity (Ashford 1989) 2 Role conflict/ambiguity (Rizzo et al 1970) 3 Job satisfaction (Warr 1991) 4 Cognitive difficulties (Fryer and Warr 1984) 5 Depression (CES-D, Radloff 1977) 6 Marital satisfaction (SMAT Locke and Wallace 1959) 7 Psychological aggression (O'Leary 1986)	No direct relationship between work (role conflict, ambiguity, dissatisfaction) and marital functioning but relationship was mediated by concentration (arousal) and depression (mood) which led to individual strain. Job dissatisfaction also showed direct effect on depression.

Year/ place	Authors	Title	Sample/Method	Measures	Results
1992, USA	Frone MR, Russell M, Cooper ML.	Antecedents and outcomes of work- family conflict : Testing a model of the work-family interface	N=631, 56%F, 44%M 3rd wave cohort from population survey Black 58%, white 42% White collar 49%, Blue collar 51% Structured interview survey.	<ol style="list-style-type: none"> 1 Work-family conflict (4 items) 2 Job Involvement (identity) (Kanungo 1982) 3 Family involvement 4 Job stressors 5 Family stressors 6 Job Distress (Kandel 1985) 7 Family distress (Kandel 1985) 8 Depression (CES-D, Radloff 1977) 9 Sociodemographic variables 	<p>Job stressors positively correlated with W-F (work-family) conflict; family stressors, involvement correlated with F-W (family -work) conflict. F-W conflict directly, W-F conflict indirectly related to depression. No M/F differences.</p> <p>F-W conflict more likely to affect identity, sense of mastery than W-F conflict.</p>
1992, USA	Karambayya R, Reilly AH	Dual earner couples attitudes and actions in restructuring work for family.	N=78 (39 M/F couples) professional, dual- earner Existing data set representing approx 50% of eligible subjects.	<ol style="list-style-type: none"> 1 Work restructuring 2 Work involvement (Hackman and Lawler 1971) 3 Family involvement (Yogev and Brett 1985) 4 Job Satisfaction (Kunin 1955) 5 Marital Satisfaction (Spanier and Lewis 1980) 6 Stress (Cohen et al 1983) 	<p>F, particularly with young children, did more work restructuring</p> <p>Higher family involvement led to less stress and more marital satisfaction. M had greater stress when F had greater work involvement.</p>
1992, USA	Parasuraman S, Greenhaus J, Granrose CS.	Role stressors, social support and well- being among two- career couples.	N=238 (119 M/F dual career couples) (No RR reported) Employed, married/ cohab. MBA students. Questionnaire survey.	<ol style="list-style-type: none"> 1 Work role stressors - conflict /ambiguity (Rizzo et al 1970) 2 Family role stressors (Kopelman et al 1983) 3 Work/family conflict (Kopelman et al 1983) 4 Job Satisfaction (Hackman and Oldham 1976) 5 Life Stress 6 Social Support 	<p>Within domain (home/work) relationships of stressors and well-being were stronger than between domains. Similarly, work support was related to job satisfaction and family support to family satisfaction. Work role and conflict were associated with life stress for M. Work role and family role associated with stress for F.</p>

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1993, USA	Kopp RG, Ruzicka MF	Women's multiple roles and psychological well-being	N=162 F, RR 54% Middle class college attenders, 7% caucasian 13% other Questionnaire survey	1 Multiple roles 2 Locus of control (Rotter 1966) 3 Well-being mastery and pleasure (Baruch et al 1983)	Multiple roles and internality associated with more happiness and self-esteem
1994, USA	Campbell DJ, Campbell KM, Kennard D.	The effects of family responsibilities on the work commitment and job performance of non-professional women	N=94 F, RR 63% Financial tellers, receptionists and secretaries. Questionnaire survey	1 Family data 2 Work/family attitudinal values: Life role salience scale (Amatea et al 1986); Organizational Commitment Questionnaire (Mowday et al 1979) 3 Job performance 4 Supervisors ratings	More roles not related to organisational commitment or job performance, but parents had less occupational commitment. F with children under 5 had better job performance than other F.
1995 USA	Barnett RC, Brennan RT, Raudenbush SW, Pleck J, Marshall NL.	Change in job and marital experiences and change in psychological distress : A longitudinal study of dual-earner couples.	N= 420 (210 M/F dual earner couples) RR 68% Population sample, managerial/professional occupations. Longitudinal 3 wave home-based interview.	1 Psychological distress - anxiety and depression (Derogatis 1975) 2 Role quality (Barnett 1993) 3 Occupational prestige (Bose Index 1985) 4 Negative affect : Trait Anxiety Scale (Spielberger 1983) 5 Socio-demographic data	Significant relationship between change over time in job role quality and distress, with no gender differences. Change over time in marital role quality also significantly related to distress for M and F, but was more closely linked for F than M.
1996 UK	Jones F, Fletcher B(C).	Taking work home : A study of daily fluctuations in work stressors, effects on moods and impacts on marital partners.	N=54 (27 M/F couples) Volunteer sample. Married/cohabiting, working Full time, University Alumni. Daily questionnaire	1 Sleep quality 2 Work stressors (Jones and Fletcher 1993) 3 Domestic stressors 4 Cognitive symptoms 5 Mood ratings 6 Communication (single item) 7 Daily incidents (single item)	For M and F significant correlations between work stressors, supports, and evening mood. M evening mood related to work stress, and F evening mood related to home stress. Evidence for transmission of work stress between partners was not conclusive.

Several themes emerge from these studies :

a.) Evidence is not conclusive as to the relative contributions of 'work to home' and 'home to work' stressors to strain or distress, or to the relative importance of gender differences in experience of such stressors. Methodological differences between studies, and use of different outcome variables may go some way to explaining this lack of agreement. For example, work variables contribute less to overall (life) *satisfaction* than home variables, although this relationship may be moderated by factors such as social support or coping (Sekaran 1983; Barling and MacEwen 1992), but work to home *conflict* is seen as more frequent than home to work conflict (Frone et al. 1992a, 1992b, 1994). Home stress is seen as a better predictor of *mental ill-health* than work stress for females in particular (Sekaran 1983; Kandel et al. 1985; Johnson 1989; Nelson et al. 1990). Evidence for crossover or spillover of effects between work and home roles is not conclusive (Parasuraman et al. 1992; Jones and Fletcher 1996)

b.) Occupation of multiple roles, (work plus family and social roles) is more likely to be associated with well-being than with strain and ill-health for females, but not for males (Thoits 1983; Cooke and Rousseau 1984; Lewis and Cooper 1987). The relationship between work stress and physical or mental strain is altered by role conflicts and overloads for females, while there is less evidence of this effect for males (Wiersma 1990). The issue of greater role conflict and overload is offered as an explanation for poorer mental health in females by some writers, conversely work is more likely to be related to well-being for females than for males. However, Kandel et al. (1985) point out that whereas one role may offset the negative effects of others, a second interpretation is that there may be self-selection into roles, so that those individuals originally displaying better mental and physical health will be more likely to occupy multiple roles.

c.) The type and quality of multiple roles occupied, i.e. marital status, parental status, and career status (for example, in dual-career marital partnerships) affects the relationship between work and home life. Females who are married tend to have better mental health than those who are single, and females who work and are married also report less mental ill-health (Johnson 1989). The quality of home life (family cohesiveness, lack of conflict) seems

to impact on the perception of stress at work (Anderson-Kulman and Paludi 1986; Steffy and Ashbaugh 1986; Karambayya and Reilly 1992), although there is a lack of data comparing male and female subjects on this issue. Being a parent, particularly of a younger child, increases stress between home and work stress for both males and females (Lewis and Cooper 1987; Greenglass et al. 1990).

d.) Issues of social class and work status seem to be of some importance. Females with greater material wealth, better education and the availability of quality childcare may also occupy more intrinsically rewarding occupational roles, have greater self-esteem and control over their work, and experience better overall health than those less privileged in these areas. Most of the subjects in the studies reported above fit into white-collar, professional or managerial categories of employment, and may reveal a bias towards under-reporting of strains, and the impact of work stress on home life. Job level is shown to affect social support and home/work conflict (Frankenhaeuser et al. 1989; Wiersma 1990)

e.) Females appear to cope better with the stresses of home life than males (Gray and Lynch 1983; Lewis and Cooper 1987; Greenglass et al. 1990; Campbell et al. 1994) and it is also suggested that home stress for males increases in proportion to the degree of females' work involvement (Karambayya and Reilly, 1992).

2.4 Moderators and Mediators : Individual Characteristics

In the transactional model, an appreciation of the role of individual characteristics and differences is crucial to understanding the relationship between occupational stressors and stress outcomes. As discussed in the preceding Chapter, many individual, social and environmental factors have been identified as intervening variables in the stressor-strain relationship. Demographic factors such as gender, age, race, education level and social class; social factors such as family background, and social support; behaviours such as diet, exercise, alcohol and drug use, aggression; and psychological characteristics such as intelligence, aspirations and abilities are all examples of such variables. The nature of the relationship between intervening variables, stressors and outcomes is also important, however

determination of causal links between such variables has presented a major methodological problem in stress research. Some potential intervening variables are discussed below

2.4.1 Control and Autonomy

Control over work and the work environment is an important determinant of job satisfaction and the experience of occupational stress. Characteristics of the organisational structure and work tasks can affect the individual's potential for control or autonomy, however, the focus of the majority of studies has been on control as an individual attribute. Locus of control (Rotter 1966) has been shown to be situation specific and scales measuring locus of control in work settings have been developed. Locus of control has been shown to correlate significantly with job satisfaction with 'internals' recording greater job satisfaction (Kasperson 1982, Frost and Wilson 1983) and less role stress (Spector 1988). Locus of control has also been related to mental ill-health, with 'externals' showing more anxiety and depression.

In a survey of 274 hospital employees, Kasperson (1982) noted that individuals who were 'internal' scorers had a more 'positive attitude' towards the organisation and management and greater job satisfaction. Internals had less role stress, more autonomy and also longer tenure of employment. However this study included staff in occupations with different characteristics and levels of responsibility, which may have accounted for some of these differences. A study of 95 female nurses, by Frost and Wilson (1983) assessing the relationship between locus of control, job satisfaction and personality (Type AB) also noted that 'internals' perceived their jobs more favourably in terms of feedback, general satisfaction, work motivation and motivating potential, although there was no significant difference between 'internals' and 'externals' in terms of satisfaction with job 'structural' variables such as skill variety or autonomy. No link between AB personality type and locus of control was identified. A positive association between internal locus of control, happiness and self-esteem was also noted in a study of 173 female college attenders (Kopp and Ruzicka 1993).

2.4.2 Type AB Personality

Type A behaviour has been linked to occupational stress (Friedman and Rosenman 1974, Cooper and Marshall 1976, Cooper et al. 1989). In earlier studies Type A behaviour was linked with ill-health in male occupational groups, and generally for those at managerial or professional levels. However, more recent studies of females at higher job levels have shown them to have higher Type A scores than females at lower job levels, and comparable scores with males in similar occupations (Haw 1982, Frankenhaeuser et al. 1989), leading to the conclusion that Type A behaviour may be a consequence rather than a cause of this type of stressful working environment.

2.4.3 Positive/Negative Affectivity

As discussed in Chapter 1, negative affect has been shown to be an important 'noise' variable, or predictor of psychological distress in occupational stress research. Although validity studies have shown that job satisfaction and positive or negative affect are indeed separate constructs, consistent correlations between positive and negative affectivity and job satisfaction have been reported (Agho et al. 1992, Cropanzano et al. 1993). Gender differences in dispositional affect may also influence subjective responses to stress or satisfaction questionnaires.

2.5 Health Outcomes or 'Strains'

Apart from obvious physical characteristics of work which may lead to ill health, (e.g. noise levels, working with chemicals, etc.), some jobs are more psychologically 'stressful' than others. Standardised mortality ratios (SMRs) have been shown to vary for different occupations (Fletcher 1988). The medical professions for example have significantly lower mortality from all causes than the general population, but a higher rate of death from suicide (BMA 1993). Examination of morbidity rates, and absenteeism figures also shows a clear occupation-based social class difference in work-related strain, with lower social classes showing higher physical morbidity and more minor mental health problems (Fletcher and Payne 1980). However, the majority of occupational stress studies have considered occupational stress in predominantly male, caucasian, 'white-collar' or professional groups.

2.5.1 Physical Illness Gender Differences

Physical health varies by age, gender and social class, and these factors have not always been considered in occupational stress research. Although the stress response has been associated with many aspects of physical morbidity, including increased susceptibility to cancer, hypertension, immune disorders, ulcers, allergies etc, links between coronary heart disease (CHD) and occupational stress have been the subject of major research studies and received most attention (French and Caplan 1970, Friedman and Rosenman 1974, Kasl 1978) The Framingham Heart Study (Haynes and Femleib 1980) identified Type A behaviour as a predictor of CHD and found that the relationship between occupational work categories and CHD varied for males and females by job level. For females, the highest rates of CHD were found among clerical workers, whereas for males highest rates were found among white collar professionals. More recent research comparing the incidence of CHD in males and females, has suggested that women in comparable occupations may be 'catching up' with their male colleagues in rates of CHD (Davidson and Cooper 1983, Frankenhaeuser et al. 1989), although others have argued that there is little evidence that this is the case (Baruch et al. 1987)

In a Swedish study of 60 male and female managers and male and female clerical workers (15 subjects in each group), Frankenhaeuser et al. (1989) studied experience of work stress, coping, autonomy and control at work, total work load (including work and home) role conflicts and masculine and feminine personality traits, using 'subjective' questionnaires and 'objective' physiological measures including blood pressure (BP), blood lipids and output of stress hormones. Confirming the results of the Framingham Heart Study (Haynes and Femleib 1980) Frankenhaeuser et al. found no significant differences between males and females in blood pressure. Female managers in this study had higher total cholesterol levels than males, linked to a higher incidence of heart disease, although they had normal levels of high density lipoprotein (HDL) cholesterol which may have a protective function against CHD. Measurement of stress hormone levels also showed that female managers' reactivity to stress was initially the same as for males, but levels remained raised for a longer period after work. Whereas males would 'unwind' at home, females' stress levels stayed high, indicating a longer period of reactivity. The women in Frankenhaeuser et al's study were in the

traditionally female occupational areas of personnel and administration, management and clerical work, and as such male and female work roles may not have been strictly comparable. The small numbers in the study also reduce the generalisability of the results.

Comparison of employed with non-employed women suggests that employment has either no effect (Haynes and Fendley 1980, Gore and Mangione 1983) or a positive effect on women's physical and mental health (Belle 1987, Haw 1982, 1986, Repetti et al. 1989). The Framingham Heart study found no difference in rates of CHD between working women and housewives, although it was noted that working women with children were more likely to develop CHD, and particularly women clerical workers with children. Although physiological indicators of stress or strain may be seen to be more 'objective' than self-report measures, correlations between these measures and stressors are often very low, predicting only small proportions of variance. Gender differences also exist both in the experience and reporting of minor physical illness complaints, with females reporting more minor complaints such as headaches and stomach upsets, (Cooper and Davidson 1982, Jick and Mitz 1985) and in rates of minor mental illness, specifically anxiety and depression.

In a review of research into women and work stress, Haw (1982) suggested that experience of minor illness may be a way of coping with stress, and that females 'drop-out' or seek treatment for minor illness earlier than males, reducing their chances of developing major illness. Although Haw concluded that married working women reported higher stress levels overall than both housewives and working men, they also reported greater life satisfaction and self esteem, and fewer psychiatric symptoms. Haw and others (Zappert and Wemstem 1985, Karambayya and Reilly 1992) have observed that women may cope with work stress by lowering career ambitions, but that generally employment is a positive experience for females, with a beneficial effect on health.

2.5.2 Psychological Illness: Gender Differences

Caplan et al. (1975) noted that different occupational types were linked with different degrees of psychological strain, measured by self-reported anxiety, depression and irritation. Machine workers were shown to have the highest, and physicians the lowest rates of anxiety in Caplan

et al's study, although it should be noted the sample included no female workers. However, the direction of causality between strain and illness cannot be inferred from this type of research. Whereas the 'healthy worker syndrome' (Repetti et al. 1989) suggests that individuals bring characteristics such as mental well-being with them to their job, making them more likely to be employed in the first place, other studies have suggested that the nature of work, or levels of responsibility may induce behavioural traits which subsequently influence mental or physical health (Haw 1982, Frankenhaeuser et al. 1989)

Females in the general population have been shown to experience more depression than males, and report both more psychiatric and more somatic symptoms (Nathanson 1975, Sorensen et al. 1985, Jick and Mitz 1985, Lewis and Cooper 1987). In Frankenhaeuser et al's (1989) study, females reported significantly more psychosomatic symptoms than male groups, although there was no significant difference between females at different occupational levels (i.e. managers and clerical workers). Other studies have suggested that females report more symptoms of more ill health than males as a response to occupational stress (O'Neill and Zeichner 1985, Zappert and Wemstem 1985). These researchers also suggest that females have greater job tension and role conflict than males due to home/work pressures, although multiple roles (occupational, marital, household) have been linked more frequently with mental well-being for females (Thoits 1983, Kopp and Ruzicka 1993)

2.5.3 Burnout

The concept of occupational 'burnout', being an array of behavioural and psychological symptoms as a response to stress, has developed concurrently with that of occupational stress, and the two terms are often used interchangeably. However, burnout is not synonymous with stress, but is a consequence of chronic work stress, characterised by a combination of physical, mental and emotional exhaustion, generally as a result of interaction with clients or patients. Pines and Maslach (1978) defined burnout as "*a syndrome of physical and emotional exhaustion involving the development of negative self-concept, negative job attitudes and loss of concern and feeling for clients*". This definition concentrates on burnout as an individual response to stress without reference to interaction with the working environment. Whilst generally applied to people-intensive professions such

as social work, or health professions, this concept has more recently been used to describe feelings of alienation or loss of self determination, in managerial or professional contexts (Hunt 1986) However, much of the burnout literature has been criticised as being rather 'sensationalist' offering nothing new to understanding of stress (Handy 1988)

2.6 Summary of Gender Differences in Occupational Stress

A major difficulty in comparing males and females in terms of occupational stress has been that they have not previously worked in comparable numbers in comparable occupations Similarly males and females' domestic roles have not previously been comparable Until relatively recently, the majority of females have worked in caring or service occupations such as waitressing, teaching, nursing or office work, and at lower levels in the work hierarchy than males Where they normally do the same job, males and females may fulfil different roles within the job, females being more likely to work part-time, to have lower status and to be paid less However, main differences in occupational stress due to gender are summarised below

a) Physical and Mental Illness

Although rates of CHD are similar for males and females in comparable occupations, females report more minor physical illness Employed females also report more minor mental ill-health than males. However, work may be a source of self-esteem for females Those who work have no more mental ill-health problems than those who do not work.

b) Job Attribute Preferences

Evidence for gender differences in overall levels of job satisfaction is not conclusive Both males and females rate 'intrinsic' job qualities more highly than 'extrinsic' job qualities, however, females are more likely to value personal growth and relationships at work than males, although there are few major differences between males and females in similar occupations Females value more 'parental support' from their work, since they tend to have overall domestic responsibility

c.) Sources of Stress

i). Career Development

There may still be barriers to career progress for females in traditional areas of male employment, and they may also have to contend with the difficulties of male role stereotypes, role conflict and overload at work. Females in dual career partnerships are more likely than males to adapt their career to fit in with family life.

ii). Relationships at work - Social Support

Females may place greater value on working relationships than males, and also derive greater social support for coping with work stress than males. Research is unclear as to whether males at higher (managerial) occupational levels have greater social support than females, although females at lower (clerical, distributional) levels seem to have greater social support from co-workers. Social support seems to have a direct beneficial effect on stress due to role conflicts, but no direct effect upon mental or physical ill-health.

iii). Role Conflict

Role conflict is a greater source of stress for females than for males, influenced by gender stereotypes and role overloads, i.e. combining domestic and work roles. The direction of conflict may vary by gender, work demands leading to increased conflict for males and home demands leading to increased conflict for females.

iv) Relationship Between Occupational and Domestic Stressors

Extra-work factors are important contributors to job stress and satisfaction for both males and females. Although females have a heavier domestic workload, they accommodate work and domestic demands to a greater degree than males, with multiple roles leading to increased well-being for females, whereas males find increased role demands more stressful. Research is equivocal regarding the relative contributions of 'work to home' and 'home to work' stress to reduced well-being.

CHAPTER 3 :
Stress and Job Satisfaction in Doctors

3.1 Introduction

Although stress is common to all professions, a career in medicine may be seen to be simultaneously one of the most stressful and rewarding. Although comparison between doctors and professions outside medicine has suggested doctors are a highly stressed group (Caplan et al. 1975), evidence that doctors experience greater stress than other health service workers is inconclusive (Porter et al. 1987, Wolfgang 1988, Rees and Cooper 1992, Caplan 1994). However, because of the ramifications for patient care, occupational stress in doctors has been the focus of much research over the past 30 years.

Change can be both a stimulus and a stressor, and the provision of medical care in the UK has been the subject of much structural and cultural change in recent years, with a shift to more efficiency orientated, and patient-centred ways of working. With accelerating improvements in health care and technology, patients' expectations of medical care have also altered, and changes have taken place in the delivery of health care both at the macro level with a move towards an economically-based purchaser-provider pattern of health care, and at an individual level impacting on the work of doctors in primary and secondary care sectors. Such changes, in combination with existing characteristics of medical work have implications for the well-being of both doctors and their patients.

3.2 Sources of Job Satisfaction

Deary et al. (1996) note that "*positive aspects of practising medicine are rarely the object of empirical study*". Although medicine has historically been seen as a vocational career with high levels of emotional and intellectual reward, research has primarily focused on the stressors rather than the satisfactions of medical work. Job satisfaction is associated with mental well-being and improved work efficiency, and thereby improved patient care. Conversely, job dissatisfaction is associated with poor performance, higher levels of occupational stress and mental ill-health in doctors (Branthwaite and Ross 1988, Makin et al. 1988, Cooper et al. 1989, Richardsen and Burke 1991, Sutherland and Cooper 1993).

3 2 1 Intrinsic Sources of Job Satisfaction

For doctors, 'intrinsic' work factors such as freedom to organise work, helping others, relationships with patients, families and colleagues are cited in many studies as sources of job satisfaction. In contrast to those working in hospital settings, doctors in general practice can potentially develop ongoing, sometimes lifelong relationships with patients and their families in the community (Cartwright 1967, Mawardi 1979, Cartwright and Anderson 1981, Bates 1982, Cooper et al. 1989) Intellectual stimulus in diagnosis, problem solving, and skill use are also cited as sources of satisfaction in many studies of GPs (Rankin et al. 1987, Branthwaite and Ross 1988, Makin et al. 1988) Deary et al. (1996), note that hospital consultants with a high intensity of clinical commitment report higher levels of personal achievement, related to job satisfaction.

Autonomy and control have been prominent features of the doctor's role which have been linked in the past to the adoption of paternalistic or autocratic approaches to patient care. In a study of 1817 GPs, Cooper et al. (1989) identified such 'intrinsic' factors, i.e. responsibility, freedom to choose method of working, and task variety as major sources of job satisfaction. A study by Holton and Hastie (1991) using the same job satisfaction measure as Cooper et al. (1989) with a sample of 51 GPs, found that freedom and variety of work contributed less to overall job satisfaction, and job satisfaction scores were lower overall in comparison with those reported in Cooper et al.'s (1989) study. Reductions in job satisfaction were attributed to organisational changes in the health service and the overall quality of the doctor-patient relationship following the "new contract", introduced by the Government in 1990.

3 2 2 Extrinsic Factors

Doctors are well remunerated and medicine is a profession with high social status, although some studies suggest that the traditional status of the doctor is declining (Bates 1982, Winefield and Anstey 1991) In studies of general practitioners, 'extrinsic' factors such as levels of remuneration, relationships with colleagues, career progress, type of practice, and working conditions, have been found to contribute less to overall job satisfaction than the 'intrinsic' characteristics of the job (Cooper et al. 1989)

Studies offer conflicting evidence of levels of job satisfaction, with some reporting higher levels of job satisfaction in doctors compared with other professionals, even where there are corresponding high levels of reported stress (Bates 1982, Makin et al. 1988, Branthwaite and Ross 1988, BMA 1991, Winefield and Anstey 1991), and others emphasising increasing job dissatisfaction in medical careers (Cooper et al. 1989, Holton and Hastie 1991, Sutherland and Cooper 1992). Increased dissatisfaction has generally been attributed to recent changes in the characteristics, ethos, or structure of the job, a loss of freedom to organise work, role conflicts, NHS change, attitudes of patients, and increased workloads, although this quote from a patient in Cartwright's study of doctors published in 1967, suggest that medical practice may have changed less over time than we suppose *"Everything is changing - I don't think doctors were exceptionally clever in my young days, but now it's a case of money. They are always grumbling about not getting enough. I think people lose all confidence in their doctors. I liked the old style who'd talk to you. It's all rush these days"* (Cartwright, 1967)

3.2.3 Comparison Between Medical Specialities

Few studies have compared job satisfactions between medical specialities. Allen (1988) carried out a comprehensive study of doctors' careers, interviewing equal numbers of male and female doctors in three cohorts of medical school qualifiers from 1966, 1976 and 1981 (a total sample of 640 doctors). Allen found that 84% of male and female GPs reported being 'satisfied' or 'very satisfied' with their jobs in comparison with 70% of the total study sample (which included male and female GPs and hospital doctors), although this result was based on only a single-item measure of satisfaction which may lack reliability. An earlier study comparing "approximately 80" doctors in different medical specialities in the USA found doctors in general practice and paediatricians to have least job satisfaction (Mawardi 1979). However, this rather anecdotal paper failed to present sufficient detail about the methodology used to enable medical specialities to be compared in terms of sources of satisfaction. However, overall levels of job satisfaction were rated as being high (scores ranged from 72 to 80 out of a possible range of 18-90).

3.2.4 Gender Differences in Job Satisfaction

Studies of doctors have identified gender differences in both sources and levels of job satisfaction, with female doctors consistently reporting higher levels of job satisfaction than males (Branthwaite and Ross 1988, Cooper et al. 1989, Richardsen and Burke 1991, Sutherland and Cooper 1993). Studies in other professions have suggested that although both males and females preferentially value intrinsic rather than extrinsic job attributes, females place more value on professional growth, good working relationships, and a good work environment, than males (Wiersma 1990). Workplace support in maternity and childcare is also valued by females, whereas this is not a factor in job satisfaction for males. Job satisfaction for women in medicine is also likely to be affected by career progress, role conflict, sex-role based work stressors, such as discrimination and harassment, and links between work and home life.

In contrast to other studies, Allen (1988), noted a significant difference in levels of job satisfaction between males and females, with only 43% of female doctors overall being 'very satisfied', compared with 52% of males. However, these figures included doctors in all types of medical speciality, and reflected a bias towards lack of satisfaction in hospital based doctors, so that when general practitioners only were considered, there was no difference in levels of job satisfaction between females and males. Allen related female hospital doctors' lower job satisfaction to discrimination and a lack of career success, suggesting that females were less likely than males to end up in their first choice of career speciality. Women in hospital medicine tend to work in the 'caring' specialties such as psychiatry and paediatrics, or those which offer more flexible hours and less out of hours work, such as radiology or pathology.

Analysis of sources of job satisfaction in a study of over 2,500 male and female physicians carried out in Canada showed that sources of satisfaction for males and females were very similar, with relationships with patients and colleagues being most frequently mentioned (Richardsen and Burke 1991). Job satisfaction was negatively correlated with occupational stress in this study, which offered a comprehensive evaluation of gender differences in stress and job satisfaction. However, individual differences between subjects, in terms of personality

or medical speciality were not explored. The percentage of variance in both stress and job satisfaction explained by the independent variables (practice characteristics, demographic variables) was also small, although because of the multivariate nature of occupational stress, it should be noted that this is often the case in such studies (Frese and Zapf 1988)

3.3 Sources of Occupational Stress

3.3.1 Intrinsic Job Characteristics

Although at certain times medical work can be routine and repetitive, doctors in all specialities have high levels of responsibility, requiring intensive skill use and decision making, where a wrong decision or diagnosis may sometimes put life at risk, or lead to litigation. In some specialities, such as maternity services, this may be a daily worry (Mawardi 1979, Richardsen and Burke 1991, BMA 1992) Doctors are also expected to be familiar with a vast area of knowledge and increasingly complex technology, but in some instances have to act and make decisions in isolation without support of colleagues. The corollary of freedom of decision making is therefore a heavy burden of responsibility, and a high degree of accountability for errors. Many aspects of medical work are also emotionally stressful, for example, dealing with death, suffering and serious illness, performing invasive procedures, and communication of difficult and emotional decisions to patients and relatives (McCue 1982) There may also be personal moral and ethical dilemmas involved in patient treatment, for example in dealing with abortion.

Although clinical aspects of medical work are a source of stress, in some studies these areas have been shown to contribute less to overall stress than the extrinsic or organisational factors of medical work, both for GPs (Cooper et al. 1989, Rankin et al. 1987), and for hospital doctors (Firth 1986, Richardsen and Burke 1991) Doctors' training generally equips them to deal with clinical issues, and facilitates the development of effective coping mechanisms to deal with clinical responsibilities. However, they may be less well equipped to cope with the hassles of day to day management of their job, and the increased "bureaucratisation" of the health service (Cooper and Hingley 1988, BMA 1992) Doctors in general practice may find the repetitive or 'trivial' nature of some consultations to be a source of irritation or 'hassle', and the expectations or demands of patients and their relatives may

also be seen as excessive, or unrealistic in view of the resources available to the doctor for treatment (Cartwright, 1967, McCue 1982, Cooper et al. 1989, BMA 1996) Doctors may also be at physical risk from exposure to disease such as hepatitis and HIV in the course of their work. There is evidence of increased risk of occupational injury from abusive or violent patients, for example in accident and emergency departments, from psychiatrically disturbed patients, or during home visits for GPs (Myerson 1991a, D'Urso and Hobbs 1989)

3.3.2 Workload

For many years doctors have expressed concern about their total workload and being constantly under time pressure, aspects which have been identified as major sources of stress for doctors both in general practice and in hospital settings (Cartwright 1976, Cartwright and Anderson 1981, Bates 1982, Firth-Cozens 1987, Richardsen and Burke 1991, Agius et al. 1996) Several aspects of workload may be considered, including overall amount of work, patient list sizes, number of consultations, home visits etc, working hours, including unsocial hours and night work, time pressure, and time spent not actually working, but 'on call' Being on call is described as being in a state of heightened alert, where it is difficult to relax or wind down for long periods at a time Coping with night calls also means that sleep patterns may be disturbed, leading to impaired physical and mental functioning (Spurgeon and Harrington 1989)

Both 'quantitative' aspects of workload, i.e 'how much' work, and the 'qualitative' aspects should be considered. Relying on subjective judgements of demand or intensity, qualitative aspects of workload (e.g type of patient consultation - clinical vs psychosocial) are however much less amenable to measurement, and therefore tend to be used less in studies of doctors' stress than more easily measured 'objective' quantitative measures, such as number of consultations, or hours worked. Occupancy of multiple roles in occupational and domestic settings also contributes to perceived workload. Many doctors hold posts in addition to their main medical job, for example, lecturing, other clinical posts, and consultancy. While there may be intellectual benefits to be gained from engaging in a variety of activities in multiple posts, the demands they impose may also be cumulative. A study of the workload of 163 GPs before and after the introduction of the 1990 'new

contract' (Health Departments of Great Britain 1989) using work diaries suggested that work hours and the overall proportion of general medical services duties had increased as a result of recent health service change, although there was no statistically significant change in time spent on call and time spent on practice administration over this period (Hannay et al. 1992). However, Hallam (1994) suggests that time spent on-call is a reducing component of GPs workload, and the increasing trend towards use of GP cooperatives for out-of hours work indicates that this may become less of a stressor in the future.

Consultation rates, home visiting rates, and general practice list sizes have been falling in general practice in recent years (Porter et al. 1987, Hallam 1994), and economic pressure to maintain high practice list sizes leads to increased pressure on the number and length of surgery consultations. Researchers in Edinburgh have used a range of methods to assess the impact of workload in a sample of 95 GPs (Porter et al. 1987, Howie et al. 1992a, 1992b), relating work patterns to GPs' attitudes towards patient care and the experience of job stress. Results suggested that larger than average list sizes, time pressures (appointments running late) and more patient-centred attitudes in doctors correlated positively with stress (Howie et al. 1992a). 'Faster' doctoring was also associated with less recognition of, and less involvement in patients' psychosocial' problems and higher rates of prescribing.

Poor time management is identified as a major factor in stress for doctors. For GPs, organisational factors such as overbooked and late running surgeries may lead to shortened consultations and reduced quality of care for patients, and increased pressure for doctors. A controlled study of the introduction of longer booking times for surgeries in 16 GPs found that improvement in time management led to a reduction in stress and raised levels of arousal for GPs as measured by a mood adjective checklist (Wilson et al. 1991). Agus et al. (1996) also identified demands on time as a major stressor in their study of 375 consultants, and within this heading included 'interruptions', 'meeting deadlines', 'finding time for research and teaching demands', 'having so much to do that everything cannot be done well', and 'conflicts between work and family time' as main components.

3 3 2 1 Gender Differences in Workload

Female doctors' occupational workload may be lower than that of males due to additional domestic demands, and several studies report that female doctors work significantly fewer hours on average than male counterparts (Weisman and Tetelbaum 1987, Grant et al. 1990, Richardsen and Burke 1991, Cooke and Ronalds 1985a). However, some of these studies fail to consider differences in levels of domestic demands, and do not differentiate between doctors who are single, married or cohabiting, or who are parents. Studies which do consider marital and parental status suggest that parenthood significantly reduces working hours for females but not for males (Nadelson et al. 1979, Weisman and Tetelbaum 1987, Grant et al. 1990). However, female doctors have been shown to have a particularly high participation rate in their careers compared with other professional women (Hems et al. 1977, Ward 1982), and it is suggested that the number and length of career breaks are decreasing in more recent cohorts (Ward 1982, Allen 1988), indicating an increasingly high level of career commitment from female doctors, with a narrowing gap between male and female doctors' workload. However, females are significantly more likely than male doctors to work part-time at some stage during their career (57% of female doctors in Allen's (1988) study, compared with 10% of male doctors), the primary reason for part-time working being childrearing. A study of 366 GPs and their patients carried out by Cooke and Ronalds (1985a, 1985b) in Lancashire, investigated differences in workloads for male and female GPs. Female GPs had smaller personal lists, worked slightly fewer hours and spent less time on-call than male colleagues, although it should be noted that this may be a result of the 'special' work of female doctors in dealing with female problems in the practice. Comparison of other processes of care, such as home visiting rates, and prescribing rates showed few gender differences, suggesting that the gap in 'productivity' is less than would be supposed, given female doctors' additional domestic commitments.

3 3 3 Structure of the Organisation The Doctor's Role

Organisational change may be both a stimulus and a stressor (Kearns 1986), and the National Health Service in the UK has been subject to radical structural changes since it was first established. Based on the White Paper 'Promoting Better Health' (1988), the recent introduction of the 'new contract' (1990), and budget fundholding for GPs has been

responsible for major changes in practice and ethos within the Health Service, and in relationships between GPs, consultants and health service managers. The introduction of computerisation, indicative prescribing, screening and regular health checks for patients, has increased emphasis on efficiency and administrative workload, GPs have acquired increased managerial responsibility and “business stress” as a result (BMA 1992). In hospital medicine, moves towards the establishment of ‘Trust’ status has led to increased responsibility for some doctors and a loss of control over resources for others, together with rationalisation of service provision, cutbacks, staff changes, and an emphasis on financial accountability.

Studies of doctors following the introduction of the 1990 contract have suggested a resultant increase in work hours, amount of administration and paperwork (BMA 1991, Hannay et al 1992, Myerson 1992), a lowering of morale and job satisfaction, and increased stress (Kaufman 1990, BMA 1991, Sutherland and Cooper 1992, Myerson 1992, McBride and Metcalfe 1995, BMA 1996). The 1989 White Paper ‘Working for Patients’ and the government’s ‘Patients Charter’ also emphasised a shift towards economic determinism in the allocation of resources and the central role of the patient as consumer. Although some would argue that changes in some aspects of working practices are overdue (Bailey 1995), a major complaint from doctors in general practice and hospital medicine regarding such organisational change has been a sense of devaluation in their occupational role, previously characterised by autonomy, control and status (McBride and Metcalfe 1995, Bailey 1995), and a feeling that changes were not ‘evidence based’.

3.3.4 Career Development

Progress to the top of the medical profession is one of the longest career paths, and the difficulties have been well documented (Allen 1988). Doctors are not regarded as ‘trained’ until they reach career grades, that is as principals in general practice, hospital consultants, or community physicians. Reaching this status can take ten years or more depending on the choice of speciality. The training period is very demanding, since long working hours coincide with postgraduate study for professional qualification, and the life-stage where relationships and childrearing are being established. Geographical mobility may be necessary to pursue a particular career path, which may also be disruptive to family relationships and

home life. In dual-career doctor partnerships this may inevitably lead to career sacrifice by one partner. There may be few formal support networks available for doctors in training (Blache 1988). In the pre-registration year, especially in periods of out of hours work, doctors may have high levels of responsibility in dealing with acute or emergency treatment, without immediate back-up from superiors (Blass and Robertson 1989).

Despite intakes of women to medical schools now standing at 50% or over and a reported decline in discrimination against women in later cohorts of medical school graduates (Allen 1988), women are still underrepresented at consultant grades in medicine, with recent figures suggesting that 18% of consultants in the UK are female, and in some specialties females are grossly underrepresented (e.g. general surgery 3%). This may be partly explained by the lack of female role models, and traditional male stereotyped medical roles in some specialties resulting in difficulty for females in following their preferred career path. Personal patronage in some medical specialties and the 'old boys network' is still considered to be an important part of the career system which discriminates against women. Allen (1988) noted that both marriage and parenthood were described as barriers to career progress for many female doctors, and also for some male doctors, and one strategy for coping with career demands is to limit personal relationships and family life (Rhodes 1989). However, whereas traditionally women might have suspended careers to raise a family, they are now more likely to delay having a family until a career is established, and to return to full-time working as soon as possible after childbirth. Some schemes have been established (e.g. the 'GP Retainer Scheme', DHSS 1972) to facilitate career involvement for females taking family leave, or encouraging female doctors to overcome obstacles to training in certain specialties (e.g. Women in Surgery Training Scheme, Joint Working Party, 1991). However such schemes have been criticised for not changing the things which most discriminate against female doctors' career progress, i.e. irregular hours, lack of part-time work and prejudice (Henryk-Gutt and Silverstone, 1976, Dillner 1991).

For GPs, in particular, a further potential career stressor lies in the possibility of career stagnation. GP principals may see their career development as complete with the

achievement of 'principal' status at an early stage and find the subsequent lack of career targets and motivations to be a source of frustration or stress

3.3.5 Relationships at Work

Although an important source of job satisfaction, relationships with colleagues at work are also a potential source of stress for doctors (Mawardi 1979, Branthwaite and Ross 1988, Cooper et al. 1989, Richardsen and Burke 1991). In particular, relationships between medical students and consultants have been shown to be a source of stress, and unsupportive relationships with colleagues may foster doubts as to abilities, reducing self-esteem (Firth-Cozens 1987, Blache 1988). Dowling (1990) has suggested that the competitive style of much medical training is no longer appropriate and at odds with the more recent emphasis on teamwork in medical care, and some radical changes in undergraduate education for doctors are currently in progress. Whilst improving relationships between colleagues, increased emphasis on the health care team in general practice may also introduce role conflicts, uncertainty or ambiguity, and a sense of a diminished role for some GPs more accustomed to an autocratic or autonomous style of working (Porter et al. 1987, Slater 1993).

Difficulty in relationships with work colleagues, and lack of social support have been identified as significant sources of stress and strain for doctors (Firth-Cozens 1990, Richardsen and Burke 1991, Rout 1996). A study by Revicki and May (1985) has suggested that family support is a more important factor than peer support in alleviating stress-related depression, which they suggest may be caused by the autonomous nature of the doctor's work role. However, studies often fail to specify the source of 'support', i.e. whether formal peer 'information giving' networks, formal support from managers, or informal friendships, which may be differentially important in a work environment. The number of partners in a GP practice may also affect the success of working relationships, and doctors working in group settings have been shown to report greater job satisfaction (Mawardi 1979, McCrane and Brandsma 1988). Alternatively, Myerson (1991b) has reported that GPs working in practices with more partners reported greater occupational stress than those in smaller practices.

3.3.6 Role Conflict

Role conflict can be discussed both in terms of conflict within the individual in terms of personal values and the values or expectancies of their occupational role, and also between the conflicting demands of multiple occupational, domestic and social roles. The potential for conflict due to changes over time in expectancies of doctors themselves, patients, and managers has already been discussed in respect of NHS change. The particular conflicts due to gender are of particular interest in the present study.

The role of the doctor has traditionally been characterised by male stereotypical values such as paternalism, strength, bravery, and power to heal. Females have therefore previously been in a numerical and ideological minority “ *in male dominated fields women's sex becomes salient and classifies them as outsiders*” (Epstein 1970, quoted in Ducker 1980). Although numbers of females entering the profession internationally have increased substantially over the past 30 years, the premise that increased entry of females to the profession would lead to ‘feminization’ or changes in the structural hierarchy of medical care, has not been fulfilled (Lorber 1985, Elston 1991, Riska and Wegar 1993). Elston (1991,1993) argued that despite increased state intervention and ‘de-professionalisation’ in the provision of medical care, autonomy and control has remained the prerogative of more senior male doctors, whereas females tend to occupy the more routine and bureaucratized ‘practitioner’ roles. In India, a culture where sex-role segregation is more extreme, the choice of speciality is more strongly associated with gender-based stereotypes, with female physicians dealing almost exclusively with women’s and children’s medical problems (Chidambaram 1993).

Different types of medical speciality are perceived as being gender-stereotyped as more suited to males or females depending upon their inherent role task characteristics, although the degree of stereotyping may depend on the viewpoint (gender, group membership) of the observer. In an interview study of 30 male and 28 female physicians, Quadagno (1976) found that males rated paediatrics and psychiatry as stereotypically female specialities, whereas females viewed these specialities as more gender ‘neutral’. It would also seem reasonable to assume that stereotypical attitudes might vary by other

characteristics, such as the individual's age and experience, although few studies draw such comparisons. Similarly the relationship between demographic characteristics of respondents (for example, marital status, parental status) and perceptions of role stereotypes, has not been routinely investigated in studies of assignment of gender stereotypes to medical specialities.

Shapiro et al. (1983) studied patients' (133 females, 28 males), medical students' (24 females, 59 males) and physicians' (6 females, 33 males) perceptions of the characteristics of 'typical' male and female physicians, using the Bem sex-role inventory. Patients tended to have less firm stereotyped views than both physicians and medical students, and males generally tended to hold stronger 'masculine' and 'feminine' stereotypical views than females. This study can be criticised for having biased, non-random sampling, and small numbers in some cells, but is of interest in suggesting that physicians and medical students were more likely to assign gender stereotypes to male and female physicians than were patients.

Conflicts between occupational and domestic roles have been mainly discussed with reference to females in medicine, whereas multiple role conflicts have not generally been perceived as a source of stress for male doctors. Female doctors have been shown to experience conflict or role strain between their work role and gender role, and to experience sexual discrimination and prejudice at work (Ducker 1980, Myers 1984, Allen 1988, Firth-Cozens 1990). Firth-Cozens' (1990) study of stressors in 70 women junior house officers noted moderate level correlations between areas of gender-related stress (lack of role models, discrimination, sexual stereotyping and prejudice) and depression. Robmson et al's (1986) study of 82 female psychiatrists similarly reported feelings of isolation and prejudice by male colleagues, and a lack of positive female role models.

A further hypothesised source of difference between male and female doctors lies in their attitudes to the provision of medical care. Most studies in this subject area have focused on general practitioners, their treatment styles, attitudes to patient care, and the doctor-patient relationship. There is some evidence that female doctors tend to spend more

time with patients, leading to greater satisfaction both for patients (Martin et al. 1988, Meeuwesen et al. 1991, Bensing et al. 1993, Delgado et al. 1993), and the doctors themselves (Cooper et al. 1989, Winefield et al. 1994). Patients have also been shown to rate female doctors as more humanistic, sensitive, and better communicators than their male peers (Hems et al. 1977, Shapiro 1983, Waller 1988, Meeuwesen et al. 1991). Some studies in general practice have suggested that female doctors carry out more 'psycho-social' type consultations (Branthwaite and Ross 1988, Waller 1988, Bensing et al. 1993) although this may be a result of preference by patients with psychosocial problems for female doctors, or biased allocation of more 'psychosocial' cases to female doctors within the practice rather than personal preferences or attitudes of the doctor concerned. In contrast to the above studies, other research which has examined general practitioner attitudes and practice styles has found few differences between males and females (Cartwright and Anderson 1981, Rankin et al. 1987, Martin et al. 1988, Bucks et al. 1990, Simpson and Grant 1991, Winefield et al. 1995).

3.3.7 Home and Work Conflict

In common with many other studies, a recent survey carried out by the BMA News Review (1996) reported that work stress adversely affected doctors' personal life. Long hours, working under time pressure, handling a lot of administration and paperwork, and taking work home are seen as being characteristic of doctors' day to day job (Cartwright and Anderson 1981, Cooper et al. 1989, Richardsen and Burke 1991, BMA 1992, Agus et al. 1996), leaving less time and energy for family interaction. Work which is 'people intensive' and emotionally demanding may leave the individual feeling drained and uncommunicative with spouse or family, and relationship or family problems may adversely affect work performance. Conflict with colleagues or patients may also spill over into relationships at home. Several studies have noted a high degree of 'burnout', including feelings of exhaustion and depersonalisation in medical practitioners (Winefield and Anstey 1991, Kirwan and Armstrong 1995, Deary et al. 1996). De Sole et al. (1969) noted that being constantly available to patients was a factor in role strain and in the high rates of suicide amongst physicians.

There may also be differences in the demands of different medical specialities. Compared with doctors working in hospital settings, general practitioners working in the community, where doctors are constantly visible and "on call" to patients may feel they have less time for self or family. Interruptions at work and at home have been noted to be a source of stress in several studies (Cartwright 1967, Cartwright and Anderson 1981, Cooper et al. 1989, Myerson 1991b, Howie et al. 1992b). Recent arrangements in general practice to develop alternative "on call-cooperatives" are currently addressing this issue of 24 hour commitment to patient care (Hallam 1994).

3.3.7.1 Marital Conflict

The image of the home as a haven from stress may also be inaccurate in some cases, with family disharmony affecting perceptions and behaviour in the workplace. Examination of divorce rates for doctors in relation to work stressors however, do not suggest a high degree of marital disharmony as a result of occupational stressors (Rosow and Rose 1972, Gabbard et al. 1987). The most commonly cited cause of marital conflict among doctors is having to work long hours, although studies have failed to find any correlation between long hours of work and either poor marriage or divorce (Gabbard et al. 1987).

There is evidence of high levels of conflict within medical marriages which may partly be a result of the impact of characteristics of medical work on doctors' spouses and families (Bates 1982, Smith et al. 1988, Yandoh 1989, Johnson 1991). A sense of isolation from spouse or family may develop during medical training, engendering attitudes which may subsequently lead to more long-term relationship difficulties. It is also suggested that female doctors fare less well than their male colleagues in terms of maintaining successful marriage, with approximately one third of women doctors remaining single (Allen 1988) and higher divorce rates for females than male doctors (Rosow and Rose 1972, Myers 1984). Marital or family problems may also adversely affect work performance (Gabbard et al. 1987, Kirwan and Armstrong 1995).

However, other factors, such as personality variables, merit consideration in studies of dynamics within medical marriages. In some studies both female spouses and families of

doctors have been shown to be more vulnerable to stress in their marital relationships than the doctors themselves (Sakmofsky 1980, Bates 1982, Smith et al. 1988). This is generally attributed to doctors' excessive involvement in their careers at the expense of family relationships, although no similar studies have been carried out with male spouses of female doctors. Elliot (1978), comparing hospital doctors and their wives noted differential reporting of the impact of work commitments on family life. A higher proportion of wives than husbands in the study reported problems with household management, restricted social lives, limited father-child interaction, and limited husband-wife interaction as a result of heavy workloads. Unfortunately this rather anecdotal study reported only percentage responses for each group, and did not use any statistical techniques for analysis.

3.3.7.2 Gender Differences in Home / Work Conflict

Many authors have identified interference of work with family life as a source of stress for both male and female doctors, but not all have differentiated between the impact on males and females, and most studies have failed to consider the bi-directionality of the home/work interface, or to assess the relative contributions of home to work and work to home stress (May and Revicki 1985, Cooper et al. 1989, Myerson 1991b, Sutherland and Cooper 1993). One study making gender comparisons (Cooper et al. 1989) found that home/work stress was the most significant predictor of job dissatisfaction and poor mental health for women doctors, but the least important predictor of these outcomes for males.

Studies in female doctors have identified conflict between home and work to be a main source of stress (Myers 1984, Robmson et al. 1986, Firth-Cozens 1990). However, in assessing the impact of the home/work interface for both males and females, it is also important to consider the relative levels of importance or commitment attributed to occupational and family roles. Cartwright (1987) identified 3 types of role combinations for female physicians: the 'superwoman' who gave equal high status to both family and career, the individual with 'limited career ambition', giving career lower priority than family, and those who placed 'medicine first', choosing not to marry or to have children. The 'superwoman' role was seen as being simultaneously most stressful and satisfying.

In a study of 93 female physicians, Ducker (1980) noted that both occupation of multiple roles, and level of commitment to such roles, was important in assessing role conflict. In an interview-based study, using a qualitative methodology, Rout (1996) also identified role conflict as a major source of stress for female doctors with a high degree of both work and home commitment. However, this was a small-scale exploratory study of 25 GPs, of whom 11 were female, which may not be generalisable.

3.3.7.3 Dual Career Partnerships

It is perhaps more common for doctors than for other professionals to be in a 'dual career partnership' where both partners are in the same profession. Similarly, many doctors also marry nurses, or others in professions allied to medicine. In her study of medical marriages, Yandoh (1989) notes that the increased stressors of medical careers may be exacerbated when both partners are involved in the same career, but as with other professional partnerships, the female partner is more likely to compromise her career by changing speciality, moving job, or working part-time.

3.4 Mediators and Moderators : Individual Differences

3.4.1 Personality Characteristics

It is suggested in the preceding chapters that differences within the individual affect their perception and experience of stressors and psychological distress or strain. Although social characteristics (for example, social class, status, financial well-being, high levels of education) may moderate doctors' susceptibility to physical or psychological illness, several authors have suggested that psychological characteristics of individuals who chose a medical career may predispose them to experience work-related psychological distress (Waring 1974, Krakowski 1982, Johnson 1991). As with other professions, doctors' career choice may have been influenced by both conscious and subconscious motives. Having a parent or relative who was also a doctor may be important, although Allen (1988) suggests that the likelihood of this being the case has reduced over time, with later cohorts in her study being more likely to have chosen a medical career for reasons other than family tradition, i.e. aptitude for science subjects or the view that it is an interesting career.

Choice of medicine as a career has also been seen as reparation for illness or trauma in childhood (Krakowski 1982, Paris and Frank 1983, Johnson 1991). In a comparative study of medical and law students, Paris and Frank (1983) suggest that reparation for childhood experience of illness in the immediate family is a subconscious motivation for medical students' career choice. However, their results only reach significance for male doctors, and for those whose parents were not doctors themselves. In addition, Paris and Frank failed to ask about subjects' own experience of childhood illness, and do not address the issues of perception or appraisal of severity or duration of the illness.

Johnson (1991) considered two main areas of reparation: impotence or powerlessness in the face of illness or death, and reparation for emotional neglect by providing care and attention to others, as an explanation of doctors' high rates of depression, and maladaptive coping behaviour. Johnson concluded that the need for reparation made doctors more likely to suffer from low self-esteem and a need for recognition by others. This was reconciled by denial of personal vulnerability and emotional and professional detachment, subconsciously depriving themselves of social support, and increasing their susceptibility to depressive illness. Obsessional traits, omnipotence and fear of emotional relationships with patients may also influence attitudes to spouse or family and lead to marital conflict (Belfer 1989). Similarly, Rucmsky and Cybulska (1985) refer to a "susceptible personality" in medical students, characterised by inflexibility and obsessive-compulsive traits. Other aspects of personality have been studied in relation to doctors. For example Cooper et al. (1989) suggested that Type A personality was predictive of lower levels of mental well-being in GPs. This finding has been confirmed in other studies (Rees and Cooper 1992, Sutherland and Cooper 1993), although only a small percentage of variance in mental well-being (approx. 1%) is explained by Type A personality in all of these studies. Similarly, internal locus of control has been associated with reduced levels of stress (Frey et al. 1981, Revicki and May 1985), and neuroticism has been found to correlate highly with occupational stress, emotional exhaustion and depersonalisation, and less job-related achievement in hospital consultants (Deary et al. 1996).

3.4.2 Coping and Social Support

The association between personality factors (i.e. neuroticism) and the use of emotion-focused coping strategies, leading to negative appraisal of job stressors, was also investigated by Deary et al. (1996) in their study of hospital consultants. However, few other studies have considered doctors' use of coping strategies as an intervening variable in the study of occupational stress and job satisfaction. Although personal maladaptive coping behaviours such as drug or alcohol abuse, or work related strategies such as increased prescribing have been examined, adaptive coping methods have been less frequently studied.

As an occupational group, doctors may be said to possess more resources for coping than most, in terms of length of education and training for the job, status within the community and financial security. In a survey of stress in health professions using the Occupational Stress Indicator, Rees and Cooper (1992) suggested that health workers in general used more coping strategies than normative groups, and that nurses in particular used more coping strategies than doctors. A gender breakdown of each occupation was not given, although since the sample of nurses was likely to have been largely female, and the doctors largely male, this gender difference may account for difference in levels of coping strategies used in this study.

Studies which have addressed coping strategies or styles in doctors have identified social support as an important intervening variable. Both degree and quality of social support have been associated with a reduction in perceived levels of stress, greater job satisfaction and improved mental well-being in both male and female doctors (Revicki and May 1985, Kumari and Sharma 1990, Myerson 1991b, Sutherland and Cooper 1993). Sutherland and Cooper's (1993) study reported that female GPs used more social support and home/work based strategies for coping with stress than males.

3.4.3 Age as a Variable

Studies in general practice and hospital medicine tend to suggest that younger doctors are more susceptible to stress, and show more work-related anxiety than older colleagues (Bates 1982, Branthwaite and Ross 1988, Winefield and Anstey 1991). Similarly job satisfaction has

been shown to be age related (Clark et al. 1996). It would seem realistic to assume that medical training will have peaks of very high stress where heavy workload and responsibility coincide with low self-esteem, isolation and inexperience, which may carry over into early years in a job. In an unpublished study of 200 'young' principals in general practice (age range 27 to 49), Plant (1991) indicated that younger GPs had particular difficulties in trying to bring about change in their practice, coping with overall workload, personnel management and relationships within the practice. This study may be criticised however, for having a rather wide definition of 'young' which may fail to differentiate between doctors at different career and life stages.

In contrast, Cooper et al. (1989) found that GPs most at risk of stress were older males. Branthwaite and Ross (1988) also suggested older GPs found psychosocial aspects of work to be less satisfying than did younger GPs. Older doctors may find it difficult to cope with the pace of introduction of change, and with technological developments in health provision, and studies in industry have indicated that job satisfaction is likely to be much reduced during periods of change (Nelson and Cooper 1995). It is also possible that younger doctors are more ready to admit to feeling stressed than their older colleagues, although conversely, it may be more difficult for an individual who is relatively new to the job to admit to being unable to cope with pressure.

3.5 Outcomes of Stress in Medical Professionals

3.5.1 Physical Ill-Health

Although medical knowledge is no guarantee of good health, evidence suggests that doctors have improved rates of morbidity and mortality in comparison with the general population (BMA 1993) and other professionals (Krakowski, 1982, Rout and Rout 1993). However, mortality for some causes (cirrhosis of the liver, road accidents, suicide) is substantially higher for doctors than for other comparable professional groups (Allibone 1981, Porter et al. 1987, BMA 1993), and concerns have been expressed regarding the tendency of doctors to self-treat or neglect their own health (Allibone et al. 1981, Richards 1989, Myerson 1990). Since doctors have multiple sources of self-referral, collection of accurate morbidity data may be more difficult for doctors than for other groups.

3.5.2 Mental Ill-Health

The picture is less clear regarding mental ill health. Several recent studies have suggested that doctors have higher rates of mental distress, anxiety and depression than norms (Krakowski 1982, McCue 1982, Rucinski and Cybulska 1985, Firth 1986, Cooper et al. 1989, Sutherland and Cooper 1993, Caplan 1994) Because of the demands of long working hours, heavy workloads, and the emotional demands of medical practice, younger doctors, and doctors in training are thought to be more vulnerable to psychological distress than their older colleagues (Bates 1982, Branthwaite and Ross 1988, Firth-Cozens 1987) This psychological distress has been linked with characteristics of medical practice, including heavy workloads, although, as with other research into occupational stress, direct causal links between work stress and mental illness have not been firmly established. Some studies of stress related mental illness in doctors fail to take account of baseline gender differences in the prevalence of anxiety and depression (Revicki and May 1985, Caplan 1994) Those which have considered gender differences in the mental health of doctors have presented conflicting evidence. Whereas some studies suggest that female doctors suffer from more mental health problems than male doctors or other female professionals (Firth-Cozens 1987, Smith et al. 1988, Borrill et al. 1996), other studies find no significant differences between female and male doctors, or between female doctors and other professional women in terms of stress-related mental distress (Simpson and Grant 1990, Sutherland and Cooper 1993, Kirwan and Armstrong 1995)

There may also be differences between medical specialities in terms of the mental health of their occupants, ascribed either to differences in the characteristics of specialities which make them more or less demanding and threatening to mental health, or to the individual characteristics of individuals who choose, or find themselves in, certain areas of medical speciality. Comparative studies have identified general practice as one of the most stressful areas of medicine (Mechanic 1972, Talbott et al. 1987) Anaesthetics (Talbott et al. 1987) and psychiatry (Morrice 1984) have also been singled out for being respectively more and less stressful than other specialities. However, evidence regarding the 'stressfulness' of different types of medical speciality (i.e. general practice vs hospital medicine) is also not conclusive. Although Morrice (1984) suggested that hospital consultants had lower self-

reported clinical depression than GPs, Caplan's (1994) comparison of consultants, GPs and health service managers using the General Health Questionnaire (GHQ) and the Hospital Anxiety and Depression Scale (HADS) showed that GPs reported more depression than managers, but found no significant difference in levels of depression between GPs and consultants

Two recently published studies which have compared psychiatric morbidity in hospital consultants in different specialities, have found no significant differences between gastroenterologists, surgeons, radiologists and oncologists using the GHQ-12 item scale (Ramirez et al. 1996) or between consultant physicians, surgeons and radiologists using the GHQ-28 item scale (Blenkm et al. 1995) Both of these studies report similar levels of psychiatric 'caseness' as identified by the GHQ to those reported in a recent large-scale National Health Service study of NHS employees (Borrill et al. 1996) This study reported that 27.8% of doctors exhibited 'caseness' using the GHQ-12 item questionnaire, in comparison with 33.4% of managers and 26.8% of NHS staff overall. Female doctors reported significantly poorer mental health than males in this study, with 36% of female doctors being identified as 'cases' compared with 24% of males. However, a study comparing different categories of health professionals, including nurses, doctors and managers, using the Mental Health scale of the Occupational Stress Indicator (Rees and Cooper 1992) reported no main effect of occupational group, with health workers as a whole exhibiting lower 'mental ill health' scores than norms for this scale

3.5.3 Burnout

Several researchers have used measures of 'burnout' as an indication of mental distress in doctors. Since these measures encapsulate feelings such as depersonalisation, and emotional exhaustion, common to 'people intensive' professions, they may be particularly sensitive to strain in medical professionals (Mayou 1987). A study of 156 doctors, including 84 GPs and 72 hospital doctors, conducted by a psychiatrist in Scotland concluded that GPs were more stressed, although both groups were experiencing high levels of 'burnout', defined as the "end-point of a process occurring in a series of stages or crises" (Morrice 1984, p. 46). However, this study can be criticised on many counts, including the use of single-item,

dichotomous measures of 'lack of work enjoyment', 'exhaustion', 'boredom' and 'depression' as an aggregate indicator of 'burnout'. Psychiatrists as a speciality were singled out as reporting less 'burnout', and low 'depression' compared with other specialities. However, no gender breakdown of the sample was reported, although the psychiatric profession tends to include a higher proportion of female doctors than other specialities. As Morrice also notes, the psychiatrists in the study may have been unwilling to report the experience of depression to a colleague (i.e. the author)

In a study of 966 GPs carried out in Australia, Winefield and Anstey (1991) found that younger male doctors were more likely to suffer 'burnout' and depersonalisation in general practice than younger females, and suggest that this may be a result of less 'psychosocial' attitudes and lack of identification or empathy with patients in males, compared with female doctors, although they note difficulties in the over-simplification of doctor attitudes to patient care. A more recent study of 245 GPs in the UK by Kirwan and Armstrong (1995) using the Maslach Burnout Inventory, found no differences in levels of 'burnout' between males and females, although both male and female groups in their sample had mean scores above the population norms for this measure. However, it has also been suggested that the concept of burnout overlaps with a general tendency towards negative affectivity and neuroticism (Deary et al. 1996), and to general life dissatisfaction (McCrae and Brandt 1988) which may lead to confounding of dependent and independent variables in studies using burnout measures.

3.5.4 Alcohol and Drug Use

It is often difficult to accurately assess rates of alcoholism and drug abuse, because of the subjective and potential unreliability of self-report data. Official morbidity and mortality data, or hospital in-patient data focusing on doctors undergoing medical treatment for alcohol or drug abuse problems has been often used as an indicator of the extent of alcohol and drug use in doctors, and is therefore likely to under-report less severe manifestations of these problems. However, data from many studies suggests that doctors both in the UK and abroad exhibit a greater prevalence of alcohol abuse (Allibone 1981, Lennane 1985, Lewy 1986, Porter et al. 1987, Juntunen et al. 1988) and drug abuse, than comparable social

groups (Vaillant et al. 1970, Rucmski and Cybulska 1985) Murray (1976) noted that psychiatric admissions for alcoholism for male doctors in Scotland were 2.7 times greater than for a comparison group of social class 1 males, and found that 58% of psychiatric hospitalisations for male doctors in the 45 to 54 age group were attributed to alcoholism. Brooke et al. (1991) also studied 144 doctors admitted to hospital with drug and alcohol problems. Equal numbers in their sample were in general practice and hospital medicine, and a higher proportion of GPs than expected were in single-handed practices. The main source of drug misuse was via self-prescribing, and alcohol problems were found to be less common for females than males, however it is well established that males in general are more likely to use alcohol as a means of coping with stress than are females. Cooper et al. (1989) also found that consumption of alcohol was significantly greater for males than for female GPs, and in their study, doctors in group practices reported consuming more than those in single handed practices. This study used self-report questionnaires, which may be a less reliable source of information than in-patient statistics, and comprises a less severe population, i.e. where alcohol use is not necessarily seen as problematic. In a study of medical students by Firth (1986), it was noted that almost half had increased their intake of alcohol over the past two years, and students who showed signs of emotional distress on the GHQ reported drinking most, although no causal relationship between these factors was established. A follow-up study of junior house officers also found no relationship between reported drinking habit and self-reported stress or depression (Firth-Cozens 1987), and other research has suggested that medical students' levels of alcohol consumption may be no greater than other students (Brewster 1986). However, there does seem to be a level of agreement that some medical specialities, in particular anaesthetics (Lewy 1986, Talbott et al. 1987, Belfer 1989) and general practice (Talbott et al. 1987, Juntunen et al. 1988), have higher rates of alcoholism and drug abuse than others.

3.5.5 Suicide

Suicide rates for doctors in the USA have been found to be twice that of the general population, and three times that of groups of lawyers or architects (Rose and Rosow 1973). Some studies suggest that certain specialities have an increased risk of suicide, e.g. anaesthetics (Hellwell 1983), pharmacy (Sakmofsky 1980), and psychiatry (Pond 1969,

DeSole et al. 1969) Richings et al. (1986) in a UK study confirmed the excess mortality of doctors from suicide in doctors under 40, but found no difference by medical speciality. Female doctors have also been shown to be 3 to 4 times more likely to commit suicide than females in the general population (Richings et al. 1986, BMA 1993, Lindeman et al. 1996)

Explanation of the elevated suicide rate for doctors is necessarily speculative. The availability of means for suicide (access to drugs etc), and technical skills and knowledge ensuring the act is successful may be relevant (Rose and Rosow 1973). Personality characteristics of doctors, including obsessive-compulsive behaviour and proneness to depression have also been implicated as important (Vaillant et al. 1970, Sakmofsky 1980, Rucinski and Cybulska 1985, Lindeman et al. 1996), as has the stressfulness of the doctor's occupational role (DeSole et al. 1969, Sakmofsky 1980)

3.5.6 Impact of Doctors' Stress on Medical Practice

An additional motivation for the study of occupational stress in medical professionals is the impact of doctor impairment on patient care. Although the image of the overworked, sleep deprived doctor persists in the popular media, relatively few studies have investigated the impact of stress on doctors' behaviour, job performance and ultimate patient care. Mechanic's (1972) classic studies of doctors related frustration with work to 'short cuts' in work performance, including inadequate examinations and prescribing without consultation. However, measurement of doctors' work performance is often necessarily subjective and therefore difficult to generalise. Other studies have suggested that efficient prescribing is a useful objective indicator of performance, although reaching agreement as to what constitutes 'efficient' prescribing is difficult. Melville (1980) studied the association between 'dysfunctional' prescribing of certain types of medication and job dissatisfaction in a sample of 124 GPs. Reduced job satisfaction was associated with higher levels of prescribing of some types of medication, and with reduced monitoring of prescribing. Doctors in this study were however from a young age group, with a ten-year age range (30-40), which may have influenced the findings, and no gender breakdown of results was offered.

A Dutch study by Grol et al. (1985), also found that negative feelings about work correlated with high prescribing rates in a sample of 57 single-handed GPs. Work satisfaction was associated with openness towards patients, greater attention towards psychosocial aspects of care, and more referrals to other professionals. Grol et al.'s study can be criticised however, for including conceptually vague questions, unrelated to particular incidents, and being especially prone to distortions of memory recall. Their ratings of quality of medical care were also subject to an observation effect which was not accounted for in the results.

Strategies adopted to cope with sleep deprivation or extreme tiredness may affect patient care (Blass and Robertson 1989). In a review of literature on junior hospital doctors, Spurgeon and Harrington (1989) note the impact of long working hours and sleep deprivation on work performance. Sleep loss is linked to lowered arousal, attentional deficit, and poor information recall, and it is also noted that fatigued subjects take greater, less considered risks. Spurgeon and Harrington conclude that for junior doctors "*work performance is adversely affected by long hours and sleeplessness*" (p 123). However, they also note the contribution of individual factors such as personality to work performance and suggest that the same problem may not arise among the "survivor population" of hospital consultants. Much anecdotal evidence exists of the impact of the 24 hour 'on-call' system on GPs' well-being, including sleep patterns and subsequent work performance. Hallam (1994) notes "*this aspect of their workload contributes disproportionately to their feelings of stress, fatigue and fear of violence*" (p 250).

3.6 Summary of Research and Methodological Problems

Table 3.1 provides a summary of some studies of occupational stress in doctors, giving date of publication, authors and title, sample size, response rates, and gender breakdown where available, together with methods, measures used, and a brief summary of main findings. Studies included here, all taken from peer review journals, have the themes of occupational stress and job satisfaction, workload, career patterns, and role conflict in common. Some earlier studies were excluded from this summary. In particular the classic studies of doctors by Cartwright and Mechanic, whose richly qualitative analysis of data provided an ideological basis for much the later research, proved difficult to briefly summarise in this format.

The studies selected cover a time period of 17 years from 1979 to 1996, and reflect a shift in the study of occupational stress from an empirical/descriptive to analytical/model building methodology. Response rates in these studies are generally high, but with a wide range (from approximately 35% to 93%), suggesting some samples may be more representative than others. In studies which do not specifically consider gender differences, males make up the large majority of the sample. Research methodologies used vary between the exploratory 'qualitative' unstructured or semi-structured interview, to the completely 'quantitative' large scale postal questionnaire at the other end of the spectrum. Most studies described are cross-sectional although longitudinal cohort samples have been used to examine doctors' career progress (e.g. Ward 1982, Allen 1988) and to examine changes over time in stress and psychiatric morbidity (e.g. Firth-Cozens 1986, 1987). The reduction in sample numbers over time in these studies illustrates one of the methodological difficulties in longitudinal research. Others have used similar measures and methodology with different samples to indicate a change over time in job stress and satisfaction (e.g. Cooper et al. 1989, Sutherland and Cooper 1992).

The measurement of stress in doctors, as with other occupations, often involves compromise between the use of generic stress measures which allow comparisons to be made between occupational groups, but may be too broadly based to identify job specific areas of stress, and measures specifically developed for the group under study, which may produce results which are not generalisable to other samples. This use of a wide range of measures and methods makes comparison between studies difficult.

A further problem lies in the different types of medical speciality examined in different studies, and the possible wide variation in job characteristics within and between specialities. Although there may be similarities in the public perception of the role of the doctor in other cultural settings, different structures in the way medical care is delivered may make cross-cultural comparisons less relevant. The distinction between 'specialist' and 'generalist' may be more relevant at the end of the day than the distinction between different types of medical speciality. However, it is comforting to note that the stressors identified using different methodologies, and in different types of speciality, tend to fit into the same broad categories.

and identify common themes, for example workload/time pressure, amount of administration or paperwork, relationships with others, role conflict/ambiguity, and home/work conflict. Similarly, clinical satisfaction and success, relationships with others, autonomy, and recognition from others (patients and peers) emerged as common sources of job satisfaction.

Many of the studies described employ standardised measures of mental ill-health as outcomes of stress. The General Health Questionnaire (GHQ), Maslach Burnout Inventory (MBI) Symptom Check List (SCL), the Hospital Anxiety and Depression Scale (HADS) and the Crown-Crisp Experiential Index (CCEI) being most frequently used in this population. Studies generally showed positive correlations between stress and psychological distress, particularly anxiety and depression. Where gender comparisons were made, female doctors reported more mental ill-health than males.

The studies described here varied in complexity with some aiming to describe stressors, satisfactions, and outcomes, and others attempting to infer causality or describe relationships between stressors, moderating or mediating variables, and health outcomes. As noted previously this reflects the trend towards away from stimulus-response models towards more complex transactional conceptualisations in occupational stress research.

Some studies failed to differentiate between male and female doctors. Since it has been shown that differences exist between males and females in terms of stressors (e.g. workload, occupational role, domestic responsibility and workload, degree of role conflict), mediators or moderators of the stressor-strain relationship (e.g. social support and coping), and stress outcomes (e.g. levels of job satisfaction, anxiety and depression, alcohol use) the importance of accounting for gender differences should not be ignored in future studies.

Table 3.1: Summary of Research Studies : Stress in Doctors

Key : F = Female, M = Male; RR = Response rate PT = Part-time; CCEI = Crown Crisp Experiential Index ; GHQ = General Health Questionnaire; HADS = Hospital Anxiety and Depression Scale; MBI = Maslach Burnout Inventory ; OSI Occupational Stress Indicator, SCL = Symptom Check List; STAI = State-Trait Anxiety Inventory.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1979 USA	Mawardi BH	Satisfactions, dissatisfactions and causes of stress in medical practice	N=180 No gender reported No RR given Medical graduates in 9 specialities (2 Cohorts, graduated 1935-45; 1956-65) Semi-structured interview :	1 Satisfactions (Brayfield 1951) 2 Stressors 3 Suicide rates by speciality	Satisfactions : clinical success, physician-patient relationship, respect, teaching, research. Dissatisfactions : time pressure, clinical failure, patients, administration, paperwork. GPs and paediatricians had least satisfaction. No correlation between suicide rates and satisfaction levels. Stressors : malpractice suits, changes in practice, violence, peer review.
1979 USA	Nadelson CC, Notman MT, Lowenstein P	The practice patterns, life styles, and stresses of women and men entering medicine : A follow-up of Harvard Medical School Graduates	3 Cohorts Medical School Graduates (1967-71; n=46F, 57M) (1972-76; n=49F, 79M) (1977, n=41F, 36M) RR decrease from 1st cohort (93%) to 3rd cohort (34%) Postal questionnaire	Open ended questions 1 Career plans, 2 'Family issues'.	1st cohort : 1/3 F and no M said marriage/family affected career plans. F in more traditional specialities. 38% M and 58% F reported marital conflict. Later cohorts showed fewer M/F differences. F had most childcare responsibility overall.
1980 Wales	Melville A.	Job satisfaction in general practice: implications for prescribing	N=124 GPs (RR 64.3%) No gender reported Questionnaire + prescribing data	1 'Attitude' scale (Job Satisfaction) 2 Prescribing data for 6 types of medication	Increased 'dysfunctional' prescribing for 4/6 types of medication associated with reduced job satisfaction

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1982 Australia	Bates E	Doctors and their spouses speak : stress in medical practice	N=105 No RR given GPs, registrars, specialists (M) + spouses (F) Semi-structured interview	'Satisfactions and stresses'	GPs less stress than registrars and specialists. Spouses rated subjects home stress more highly than did subjects themselves.
1982 England	Ward A	Careers of medical women	2 medical school cohorts of F doctors, 1) N=1396, age c.50 2) N= 467, age c.30 overall RR 74% Postal questionnaire	Examination of career patterns, qualifications, choice of speciality	91% of both cohorts in medical practice. Longer mean career break for cohort 1 than for cohort 2. Later cohort had greater involvement in practice, and higher proportion of F in training/career grades.
1984, Scotland	Morrice JKW	Job stress and burnout	N= 156 doctors, RR 78% 84 GPs, 72 hosp doctors including 11 psychiatrists Postal questionnaire	5 'key' questions : 1 Lack of work enjoyment 2 Periods of exhaustion 3 Stress 4 Boredom 5 Depression	GPs recorded less enjoyment, more exhaustion, more depression, boredom. Hospital doctors rated work more stressful.
1985, England	Cooke M, Ronalds C	Women doctors in urban general practice : the patients, and the doctors	N= 183 GPs, 18% F, 72% M Subset from larger interview study Diary of consultations kept	1 Characteristics of doctors 2 Practice Characteristics 3 Consultation data	F GPs were younger than M, fewer singlehanded or working in deprived areas. 66% of F on call compared with 91% of M. M and F had similar working patterns although F had slightly reduced workload F doctors saw more F patients, (smears, contraception and breast disorders).

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1985, Holland	Grol R, Mokkink H, Smits A, Van Eijk J, Mesker P, Mesker-Nielsen J.	Work satisfaction of general practitioners and the quality of patient care	N=57 GPs (one-man practices) RR = 73% No gender reported Questionnaire survey	1 Work Satisfaction Questionnaire 2 Prescribing and Referral Data 3 Self-rated Quality of Medical Care - Somatic, non-Somatic	Work satisfaction correlated with openness with patients, attention to psychosocial aspects of care, for patients with both physical and psychosocial problems Negative emotions re work correlated with increased prescribing. Increased referring was associated with work satisfaction.
1985 USA	Revicki DA, May HJ	Occupational stress, social support and depression.	N= 210 physicians, RR 66% 93% M, 7% F Stratified random sample Questionnaire	1 Health Professions Stress Inventory (Revicki and May 1984) 2 Self Rating Depression Scale (Zung 1965) 3 Locus of Control (Rotter et al 1962) 4 Family Inventory Resources Management (McCubbin 1981)	Structural modelling of stress: Occupational stress correlated with depression, mediated by family support. Internal Locus of control associated with strong family support.
1986 England	Firth J	Levels and sources of stress in medical students	N=318 medical students 59% M, 41% F RR 79% Questionnaire	1 Stress Incident Record 2 Satisfactions 3 GHQ-12 (Goldberg 1972) 4 Alcohol consumption	GHQ showed estimated emotional disturbance of 31.2% in doctors. Those above GHQ caseness cut off reported drinking more alcohol. More M than F reported no stressful event. Most common stressors were relationships with consultants and impact on home life.
1987, England	Firth-Cozens, J	Emotional distress in junior house officers	N= 170 Junior House Officers Gender not reported RR 72% Questionnaire	1 GHQ-30 (Goldberg 1972) 2 SCL Depression (Derogatis 1973) 3 Emotion and Empathy (Mahrabian 1972) 4 Alcohol use 5 Job characteristics 6 Job Stressors	50% showed emotional disturbance on GHQ, and 28% evidence of depression. Emotional disturbance was related to higher levels of empathy. Stressors overwork, distressed relatives, personal life, clinical failure. F were more depressed than M, but did not report more stress.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1987 England	Rankin HJ, Serieys NM, Elliot-Binns CP	Determinants of mood in general practitioners	N= 44 GPs RR 82% 25%F, 75% M Postal questionnaire	1 Job Activities Scale (14 items) 2 Self-monitoring diary rating mood, anxiety, tension, anger, frustration.	Lower mood with 'hassles', time pressure, domestic dissatisfaction. 'On-call' related to lowered mood, tension. Domestic problems related to lowered mood for F.
1987, USA	Weisman CS, Teitelbaum MA	The work-family role system and physician productivity	N=476F, N=615M. Obstetrician gynaecologists RR 84%. Mean age 34 Telephone interview /questionnaire.	1 Total weekly hours (work/home) 2 Spouse employment, parental status, responsibility for household tasks, 3 Practice Characteristics	M work average 7.5 hrs per week more than F. Family variables are negative predictors of F work hours. M work hours increase for each additional child. Increased home responsibilities for F led to decreased work hours.
1988, England	Allen I	Doctors and their careers	3 cohorts of graduates from medical school, 1966, N=226; 1976, N=210; 1981, N=204. total 314 M, 326 F Semi-structured interview	Career history	F lack of career parity with M. F more likely to change speciality than M. Personal patronage seen as important by F. Need for more part-time posts stressed. M doctors overall more job satisfaction than F, but no difference M and F GPs.
1988, England	Branthwaite A, Ross A	Satisfaction and job stress in general practice	N=408 GPs No gender reported RR 65% Questionnaire survey	1 Work attitudes 2 Job satisfaction	Factor analysis revealed satisfaction with psychosocial, clinical, managerial aspects of work. Levels of satisfaction on these factors were high. Stressors were uncertainty, isolation, relationships, disillusionment, changing demands. Males found psychosocial aspects less satisfying, managerial aspects more satisfying than females. Older Doctors had more clinical satisfaction.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1988 USA	Smith F, Andrasik F, Quinn SJ.	Stressors and psychological symptoms of family practice residents and spouses	N=39 Family practice Residents (31M,8F) (RR 62.9%) N=24 Spouses, (3M,21F) (RR=56%) Questionnaire	1 SCL 90 (Derogatis 1976) 2 Global Severity Index (total) 3 Minnesota-R Stress Scale (Nelson and Henry 1978)	F Residents twice as stressed, 3 times more global psychological symptoms than M. F more depression than norms. Most common stressors, not enough time for self, leisure, social life etc. F spouses higher depression than out- patient norms.
1989 England	Cooper CL, Rout U, Faragher B.	Mental health, job satisfaction and job stress among general practitioners	N=1928 GPs RR 48% 19% F 81% M, Postal questionnaire	1 Job Satisfaction (Warr et al 1979) 2 Job Stress Inventory (Makin et al 1978) 3 CCEI (Crown, Crisp 1966) 4 Type A behaviour (Bortner 1969) 5 Smoking/Alcohol	Intrinsic sources of satisfaction more frequently reported. FGPs had greater job satisfaction, wellbeing than M. M had higher anxiety than norms. Work/home interface and social life negative predictors of job satisfaction and mental wellbeing, for F more so than for M. No significant M/F difference re: smoking. M more alcohol use.
1989 England	Hooper J	Full-time women general practitioners - an invaluable asset.	N= 308 FGPs RR 62% Questionnaire survey	1 Full-time / part-time status 2 Workload - number of surgeries, out- of hours work, practice business involvement	No statistically significant difference between full-time F and their partners in terms of surgery workload and out of hours work. More F ran specialised clinics than M
1990, USA	Grant L, Simpson LA, Rong XL, Peters-Golden H	Gender, Parenthood and work hours of physicians	204 young doctors (1-4 yrs in practice) RR 94% N=57F, 147M Structured Interview	1 Hours worked/ ideal hours, 2 Parental status, family hours, household help 3 Practice type, medical speciality.	M, and solo practitioners worked longer hours. All groups worked more than their 'ideal' hours. Gap between actual and 'ideal' hours greatest for fathers.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1990 India	Kumari K, Sharma S	Social support, organisational role stress and well-being of medicos	N = 200 hospital doctors (M) No RR given Standardised interview	1 Social Support Questionnaire (Sarason et al 1983) 2 Organizational Role Stress (Pareek 1983) 3 STAI (Spielberger 1973) 4 General Wellbeing Scale (Varma et al 1983)	Social support correlated positively with job satisfaction, general well-being. High social support was related to lower occupational stress and anxiety.
1990, USA	Simpson LA, Grant L.	Sources and magnitude of job stress among physicians	204 young doctors (1-4 yrs in practice) RR 94% N=57F, 147M Structured Interview	1 Job Stressors 2 Practice structure (solo vs. group) 3 Profit vs. nonprofit status 4 Gender 5 SCL-90 (Derogatis 1977)	No significant gender differences or differences by medical speciality in sources or magnitude of stressors. 4 sources of stress - patients, competence, time pressure, business. Practice structure, profit status, parental status were not related to job stress. No associations between job stress and mental impairment
1991 England	Myerson S.	Doctors methods of dealing with ongoing stress in general practice	N=120 GPs RR 80% No gender reported Unstructured interview	Unstructured interview	Identified 'on-call', night work, lack of family time as sources of stress. 73% 'torn' between home and work.
1991, Canada	Richardson AM, Burke RJ	Occupational stress and job satisfaction among physicians ; sex differences	N= 2584 physicians RR 68%. Approx 10% F Questionnaire survey	1 Overall stress 2 Sources of stress (13 items) 3 Overall satisfaction 4 Sources of satisfaction (12 items) 5 Practice and demographic variables 6 Attitudes to health care	Main stressors were hours worked and time on call. Management problems predicted more stress for M. Relationships were patients were most satisfying for both M and F, but for F family concerns were most predictive of job satisfaction, vs. working conditions for M. Overall, F reported slightly higher stress than M, with no differences in job satisfaction. F had lighter overall workload than M.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1991, Australia	Winefield HR, Anstey TJ.	Job stress in general practice : Practitioner age, sex and attitudes as predictors.	N=966 GPs (RR = 78%) 20%F, 80%M Questionnaire survey	1 MBI(Maslach 1986) 2 Attitude Scale (Cockburn et al 1987)	1/3 of doctors under 40 yrs, and more M than F reported emotional exhaustion, and depersonalisation.
1992, England	Hannay D, Usherwood T, Platts M	Workload of general practitioners before and after the new contract.	2 cohorts GPs 1990 N=181, RR 60% 1991 N=163 RR 54% Diary study	1 Weekly Workload Diary (patients seen, hours on call)	Amount and range of activities increased significantly from year 1 (pre-) to year 2 (post-contract). More time on GMS work. Overall work hours increased.
1992, Scotland	Howie JGR, Hopton JL, Heaney DJ, Porter AMD.	Attitudes to medical care, the organisation of work and stress among general practitioners	85 volunteer GPs No RR Reported No gender reported Questionnaire survey	1 Attitude Scale (Cockburn et al 1987) 2 Self-perceived pressure, stress 3 Stress-arousal checklist (Cox 1985) 4 Consulting style, workload	Attitudes - patient centred doctors with more 'responsibility' for decisions, psychological orientation and appropriateness of consultations had more stress, but associated with better 'quality of care' lower prescribing and psychological relevance of issues. 'Patient-centred, slower' doctors with high booking rates had more stress. 'Fast, less patient-centred doctors reported more dissatisfaction.

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1992 England	Rees D, Cooper CL	Occupational stress in health workers in the UK	N= 1176 health service employees - grouped into: admin/clerical (n=129) ancillary (n= 65) doctors (n=153) nurses (n=555) allied profess. (n=147) scientist/tech. (n=66) managers (n=12) N Known (n=49) (RR varied from 39% to 80%) No gender reported. Questionnaire.	OSI (Cooper et al 1988) 1 Sources of pressure 2 Type A 3 Locus of Control (LOC) 4 Coping Scale 5 Current state of health 6 Job Satisfaction 7 Sickness absence	Health workers compared with OSI norms 1 Greater job stress on 5/6 subscales 2 Lower Type A scores 3 More internal LOC on 3 subscales 4 More frequent use of coping 5 Lower mental ill health scores, but not physical ill-health 6 No significant difference in job satisfaction Comparison between employee groups : Nurses had more stress than other groups, particularly on 'Home-work' interface, but not poorer mental-health. Managers, doctors had greatest job satisfaction. Managers and doctors had least sickness absence
1993, England	Sutherland VJ, Cooper CL	Identifying distress among general practitioners : predictors of psychological ill- health and job dissatisfaction	N=917 GPs RR 61% 26.5% F, 73.1% M Questionnaire survey	1 CCEI (Crown, Crisp 1966) 2 Job Satisfaction (Warr et al 1979) Following measures from OSI (Cooper et al 1988) : 3 Job Stressors 4 Type A behaviour 5 Locus of Control 6 Coping Styles	MGPs were significantly more anxious and depressed than norms. F had similar scores to norms. Somatic anxiety lower than norms for M and F. F had greater job satisfaction than M, but overall satisfaction reduced from 1987 study. 3 main stressors : demands of job, patients; role stressors; organisational structure. F used more social support coping

Year/ Country	Authors	Title	Sample/Method	Measures	Results
1994, England	Caplan RP	Stress, anxiety and depression in hospital consultants, general practitioners and senior health service managers	N= 65 consultants (RR 80%) N= 257 GPs (RR 80%) N= 67 hospital managers (RR 56%) No gender reported Questionnaire survey	1 GHQ-28 (Goldberg 1988) 2 HADS (Zigmond and Snaith 1983)	46% scored >5 on GHQ 64% above cut-off for HADS anxiety No significant differences between groups on HADS - anxiety or on GHQ GPs had significantly greater depression scores than managers. No significant difference in GPs and Consultants depression scores.
1995, England	Kirwan M, Armstrong D.	Investigation of burnout in a sample of British general practitioners	N=245 GPs, RR 83% 18.4% F, 81.6% M, Postal questionnaire	1 MBI (Maslach 1986)	GPs scored above norm on 3 MBI scales. No sex difference in scores Part-time GPs had lower emotional exhaustion and depersonalisation scores
1994, Scotland	Deary I, Blenkin H, Agius RM, Endler N, Zeally H, Wood R.	Models of job-related stress and personal achievement among consultant doctors.	N=407 consultant doctors RR 82% 19%F, 81%M Postal questionnaire	Structural equation modelling: 1 Personality - NEO Five factor Inventory (Costa and McRae 1992) 2 Coping Inventory for Stressful Situations (Endler and Parker 1990) 3 GHQ-28 (Goldberg 1988) 4 MBI (Maslach 1986) 5 Specialist Doctors Stress Inventory 6 Clinical Workload	Transactional model of stress developed Latent 'Negative affect/distress' variable explained large proportion of variance. Job stress levels predicted 'burnout'. Higher clinical workload related to stress and also to personal achievement.
1996, England	Rout UA	Stress among general practitioners and their spouses : a qualitative study	N=25 GPs RR not reported 14M, 11F Open-ended interview	In-depth interviews	Males : Perceived 'moderate to high stress' : paperwork, time pressure, night calls, on-call, interruptions, lack of emotional support Females : Time pressure, role conflict, work overload, lack of professional support. GPs wives - detachment, communication problems, concern re spouse workload

CHAPTER 4 :
Methodological Issues

4.1 Introduction

Because the study of stress covers a vast area, encompassing many different disciplines and approaches, research into occupational stress seems to be beset with methodological difficulties which make firm, generalisable conclusions difficult. Some of these difficulties are outlined below. The transactionist model suggests that occupational stress is a result of an interaction between the physical work environment and the cognitive interpretation of that environment. Both of these perspectives should therefore be considered in the measurement of stress (Cox and Ferguson 1994).

4.2 Methods Used in Stress Research

The relative value of 'objective' versus 'subjective' methods of stress measurement merits discussion. 'Objective' methods can be described as being those which are unrelated to the individual's perception, whereas those which are 'subjective' are related to individual cognitive and emotional processes. Three major methods of investigation have been employed in occupational stress research: a) 'Objective' physiological measures (e.g. heart rate, blood or urine catecholamine measurements), b) 'objective' observational, or non-invasive methods, assessing such items as sickness absence, indices of work performance or economic output, or environmental factors such as light, noise and air quality, c) 'subjective' self-report questionnaires or interview. Each of these types of methodology has potential difficulties.

a) Physiological Measurement

Researchers have used physiological measures as 'objective' indicators of strain, the most frequently reported being cardiovascular (e.g. heart rate, blood pressure), biochemical (hormones, uric acid, catecholamines), and gastrointestinal (peptic ulcer). However, methodological problems arise in the accuracy and reliability of physiological outcome data (Fried, 1988). Physiological measures may need to be measured very frequently to take account of variations in background conditions and variations within the individual, for example, temperature, humidity, caffeine/alcohol consumption. Measures such as blood pressure have been shown to be sensitive to the time of day of measurement. Individual baseline data may need to be obtained to account for

differences in demographics (age, sex, race etc) and stimulus reactivity Collection of physiological data may also be perceived as uncomfortable or invasive, thereby reducing compliance, and making such data difficult to collect Many existing research studies fail to take account of stable factors (e.g. genetic differences, sex differences), transitory factors (e.g. time and situational variations) or procedural factors (e.g. problems of accurate measurement) in physiological measures of work stress, making the results of some studies questionable (Fried et al. 1984, Fried 1988) It is also suggested that physiological reactions may differ according to the type of stress, for example, whether acute or chronic, and methods of measurement tailored accordingly So for example, cardiovascular measures are seen as especially sensitive to acute stress whereas urinary catecholamines are more stable and might be reliably used to measure chronic stress (Fried et al. 1984)

b) Observational Methods

Observational measures which are generally unobtrusive have the apparent advantage of not affecting the nature of the behaviour under observation Examples of such measures may be recording of components of the physical work environment, sickness absence rates, and work output or performance However, problems still arise in the accuracy of objective measures in predicting the variables under study For example, sickness absence figures may not accurately specify the cause of such absence, and may presume absence to be stress-related where it is not There may also be an 'observation effect' whereby the perception of being observed may alter subjects' behaviour

c) Self-report Methods

Self-report questionnaire or interview methodologies have been criticised for being subject to conscious or unconscious positive or negative respondent biases, such as 'defensiveness' (Newton 1989), or 'social desirability' (Nederhof 1985) Some subjects may also display 'response sets', i.e. a tendency to respond to questions in a certain way The use of self-report health measures as dependent variables in measures of stress may also be questioned for their lack of 'objectivity' For example, Depue and Monroe (1986) note that pre-existing illness may affect both appraisal of, and coping with

stressors A correlation between two variables measured by self-report may be a reflection of common method variance rather than a true relationship Individual or personality characteristics, such as negative affectivity, neuroticism, extroversion or introversion are potential confounds which should be recognised in stress research Questions on stressors which are situation specific may also fail to take account of the individual's appraisal or evaluation of the stressor, and also of any emotional response It is noted (Newton 1989) that measurement of strain outcomes tends to concentrate on the experience of anxiety or dissatisfaction, but does not allow for other emotional reactions to stress (for example, anger, hostility or alienation)

A combined approach to the measurement of stress using 'triangulation', (observation from different viewpoints) of physiological, observational and self-report measures is recommended (Fried et al. 1984, Bailey and Bhagat 1987, Cox and Ferguson 1994) However, Cox and Ferguson (1994) note that although the discrepancy between objective and subjective measures may be a clear predictor of ill-health, this discrepancy is often difficult to quantify, being based on different measurement systems, reliant on the imposition of the researchers' perceptions of reality upon the subject, or vice versa It is also of note that the root causes of stress or strain are not only as appraised by the individual but also have a basis in the structure of organisations or society, areas outwith the individuals sphere of influence Some authors argue that a consideration of social structural issues and relationships might be profitably incorporated to increase understanding of psychologically based models of stress (Handy 1988)

4.3 Problems Related to the Measurement of Stress

The lack of a single definition of the term 'stress', in particular overlap between the concepts of 'stress', 'stressors' and 'strains' is reflected by confusion as to what is actually being measured, and the proliferation of frequently idiosyncratic stress measures Adequate measures should be based on a stated model or theory, be psychometrically developed and tested, and have investigated or proven reliability and validity Kasl (1987) notes the problem of construct validity, with confounding of dependent and independent variables in some studies, so that in effect they measure

aspects of the same construct. Often questions fail to differentiate between stress (stressor) and strain (the physical or emotional response). So for example a 'daily hassle' may correlate highly with the 'strain' it is supposed to predict, and outcome measures such as job dissatisfaction and mental ill health may be confounded by their common correlation with neuroticism or negative affect.

The diversity of definitions of stress is reflected in the analyses employed in some studies. As the number of studies of stressors and strains has increased, statistical techniques used have become more complex, in attempting to arrive at generalisable and predictive models. As increasing numbers of variables are studied, many correlations or regression coefficients linking 'stressors' and 'strains' are of a low order, and some structural models have become so complex as to be unable to contribute significantly to our understanding of occupational stress.

Lack of precise definition and measurement of some variables such as 'social support' and 'job satisfaction' also means that comparisons cannot easily be made between studies, or between different individuals or occupations. The terms 'moderator' and 'mediator' or 'buffer' are often used interchangeably to describe an intervening variable in the stress-illness process. Although these concepts are broadly similar, the distinction between them (discussed in Chapter 1, pages 8-10) is important in terms of statistical methodology (Baron and Kenny 1986) and formulation of conclusions regarding the effects of intervening variables. The moderating and mediating effects of intervening variables are statistically investigated by assessing the impact on zero-order correlations between independent and dependent variables, via regression analysis or by investigating interaction effects using analysis of variance.

The determination of *causality* of stress has been described by Depue and Monroe (1986) as being difficult to ascertain due to high levels of pre-existing physical and psychological disorders in the population, and by Watson (1988) and others with respect to confounding links between negative affectivity, stress and job dissatisfaction. Problems also arise in assessing the role of behavioural or personality variables in

experience of stressors. For example, Type A behaviour may be seen as a result of a pre-existing personality characteristic which determines the experience of stress, or as an acquired behaviour which is adopted as a result of socialisation into a particular role (Haw 1982, Frankenhaeuser et al. 1989)

Most studies of occupational stress have been *cross-sectional* in design, i.e. with measures taken at one point in time. Cross-sectional studies allow relationships between independent and dependent variables to be established, but it is not possible to determine the temporal order of stress and strains. However, *longitudinal* studies, taking repeated measurements may fail to obtain uncontaminated responses over time, and often suffer from considerable attrition in the number of subjects as the study progresses.

The temporal nature of stressors themselves may be either *acute*, *chronic* or *episodic* having different *duration* and *intensity*, properties which are often not measured or specified in stress research. Questionnaires often fail to differentiate between short and long-term stressors. Long-term stressors, or daily 'hassles' (DeLongis et al. 1982) may be less intense but less easily managed, requiring greater adaptation by the individual than short-term acute stressors. It is also suggested that physiological reactions to acute and chronic stressors may vary (Fried et al. 1984, Fried 1988)

4.4 Self-Report Questionnaire Methodology

Although it can be argued that information gathered using a personal interview methodology can give a more probing, in depth and accurate view of an individual's opinion, there are also major advantages in using self-report questionnaire as research methodology. Respondents can have the advantage of anonymity which may improve the frankness of the response, particularly for sensitive or personal issues. They can give questions due thought and complete them in their own time. Questionnaire surveys also enable researchers to obtain opinions from large numbers and a wide range of subjects at minimum levels of cost. However, steps should be taken to ensure the representativeness and lack of bias in selection of subjects.

4.4.1 Representativeness of Subjects

Aspects of demographic background variables in subjects, e.g. age, gender, social class, or race are often not accounted for in research designs. For example, gender-based variation in subjective perception of stressors, outcomes and in mediators of stress (e.g. social support) is often not balanced, or even reported (Kanter 1977). In many occupations, including the medical professions, it can be argued that role conflict and role strains in particular are very different for males and females. Racial, cultural, or social-class biased attitudes, for example to the male domestic role, may be crucial in determining links between work and non-work stress.

Whilst it is important to identify the characteristics of a particular occupation such as medicine, in comparison with other occupations, differences between types of speciality *within* medicine, (for example between general practitioners and surgeons), may be greater than differences between medicine and other broad occupational types. Few studies of doctors have addressed such potential differences.

4.4.2 Achieving Adequate Response Rates

It is important that the sample size in studies should be large enough to reliably demonstrate a statistically significant effect, and also that samples should be representative of the population under examination. It has been argued that there is no 'safe' response rate below 100% (Sheikh and Mattingly 1981). However, in reality study response rates vary considerably. The summary of studies of occupational stress in doctors (Chapter 3, pages 86-94) reports a range of response rates from 35% to 93%. Various studies have indicated strategies to maximise response. Variables which might affect the return rate of questionnaires include :

- a) Length of Questionnaire : Common sense suggests that the overall length of a questionnaire may be important in determining response rates (Cartwright 1978) although some studies have suggested this is not always be the case (Scott 1961; Smith et al. 1985).
- b) Introductory Letter : The nature of the agency sending out a questionnaire has been shown to influence the response (Scott 1961; Smith et al. 1985; Myerson 1993).

For example, a letter from a patient's general practitioner has been shown to elicit a better response rate than the same letter from a researcher (Smith et al. 1985). Scott (1961) also notes conclusive evidence that follow-ups increase final questionnaire response rates, although where a questionnaire is returned anonymously it may not be possible to send follow-up reminders.

c) Age, Sex and Ethnicity of Subjects : Some studies have found a poorer response from older subjects (Kaplan and Cole 1970; Cartwright 1978; Myerson 1993), and a better response from females than males (Smith et al. 1985; Myerson 1993) or from different ethnic groups (Vernon et al. 1984). The perceived relevance and interest of the topic under question to the target population may also affect the response rate. More specifically in terms of stress research in doctors, Myerson (1993) showed that groups who responded to reminder letters (i.e. late responders) tended to rate themselves as being more stressed than earlier responders.

d) Characteristics of Non-responders

It is important to determine that responders to questionnaire surveys do not differ significantly from subjects who fail to respond. Scott (1961) notes that data on non-responders can often be obtained from the original sampling frame, or from questionnaires returned uncompleted (e.g. data on subject's sex, area of residence). As noted above, some studies have shown non-responders to be more likely to be older and to be male than individuals who do respond. Non-responders may exhibit significantly higher or lower symptoms than individuals who respond to studies. For example, subjects of a stress survey may fail to respond because they are chronically stressed, or because they perceive themselves to be unaffected by stress and see the questionnaire as irrelevant to them (Mumford, 1983).

4.5 Development of a Model of Stress

As previously discussed, studies of stress have suffered from lack of a common theoretical perspective, and confusion between independent and dependent variables, i.e. 'stressors' and 'strains' often makes results of studies ungeneralisable. As a response to this, some more recent studies have developed complex models representing the multivariate nature of 'stress', but such models have sometimes proved to be ungeneralisable outwith the area of

study in question. The present study utilises the simple linear causal model of stress as a basis for a more complex interactionist model of stressors, mediators/moderators and strains.

4.5.1 Simple Linear Model

Figure 4.1: Simple Linear Model of Stress

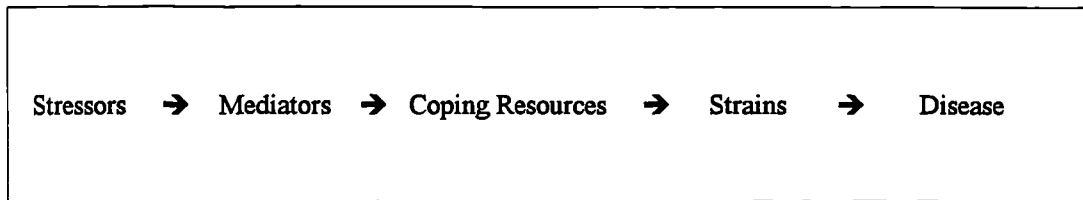


Figure 4.1 illustrates a simple unidirectional causal model of stress. Assumptions in this model are that 'objective' stressors place demands on the individual which are moderated or mediated by individual characteristics or resources. These characteristics in turn affect coping and the experience of outcomes or symptoms of stress or 'strains', with prolonged or severe strain leading to subsequent ill-health. This simple model has been often used as the basis for explanation of the relationship between stress and illness (e.g. Cooper and Marshall 1976), however because it is unidirectional, it fails to take account of aspects of the essentially dynamic and circular nature of stress.

4.5.2 Transactionist Models

The measurement of individual perceptions of stress and coping has presented particular challenges to those engaged in stress research. The dynamic nature of transactionist/interactionist theories suggests that a linear causal model may fail to capture the complex statistical inter-relationship between variables. Various studies, mainly in the field of occupational stress, have attempted to identify consistently applicable models of stress (e.g. Revicki and May 1985; Edwards et al. 1990; Deary et al. 1996). Such models are multivariate in nature, generally represented diagrammatically by a series of boxes and arrows, with links between variables determined by statistical techniques varying in sophistication from correlation and regression to multiple regression or path analysis. Such analyses enable complex empirical models to be developed and tested against hypothetical models using techniques such as structural equation modelling. The development of such

models is valuable in identifying links between individual and psychosocial variables. However, to be widely applicable, models need to be very carefully constructed, using non-overlapping constructs, and well validated measures. Unfortunately, in the field of stress measurement, there is often confounding of some variables (for example, links between illness behaviour and the perception of stressors). Such variables are often heavily interrelated (for example, neuroticism and anxiety), and correlations small, so that models can be difficult to interpret, and may not be replicable outside the study in question (Brumer and Reynolds 1993).

4.5.3 Development of a Model for the Present Study

The present study of occupational stress, job satisfaction and role conflict in doctors uses a transactionist model as a theoretical base, extending the simple linear unidirectional model by indicating the complexity and mutuality of relationships within the three major sections, external stressors, internal characteristics and consequential strains. This model is illustrated diagrammatically in Figure 4.2 below.

a) External Factors 'Stressors'

For the purposes of the present study external stressors are perceived as existing not only in the demands of work, but also in the demands of home life, with the relationship between work and home life being a potential source of 'role conflict'. Work demands include the perceived stressfulness of the intrinsic characteristics of medical work, such as dealing with patients, clinical demands, and administrative demands, in addition to more 'objective' indicators of demands such as hours worked, the amount of time spent on call, and the size and structure of the subject's medical practice. Home demands assessed include perceived stressfulness of aspects of home life, and 'objective' measurements of time spent on domestic activities. The total number of occupational and domestic roles occupied is also a potential source of role conflict.

b) Internal Characteristics Moderators and Mediators

Individual characteristics and demographic features are hypothesised to be important intervening variables in the stressor-strain relationship. In the present study, individual

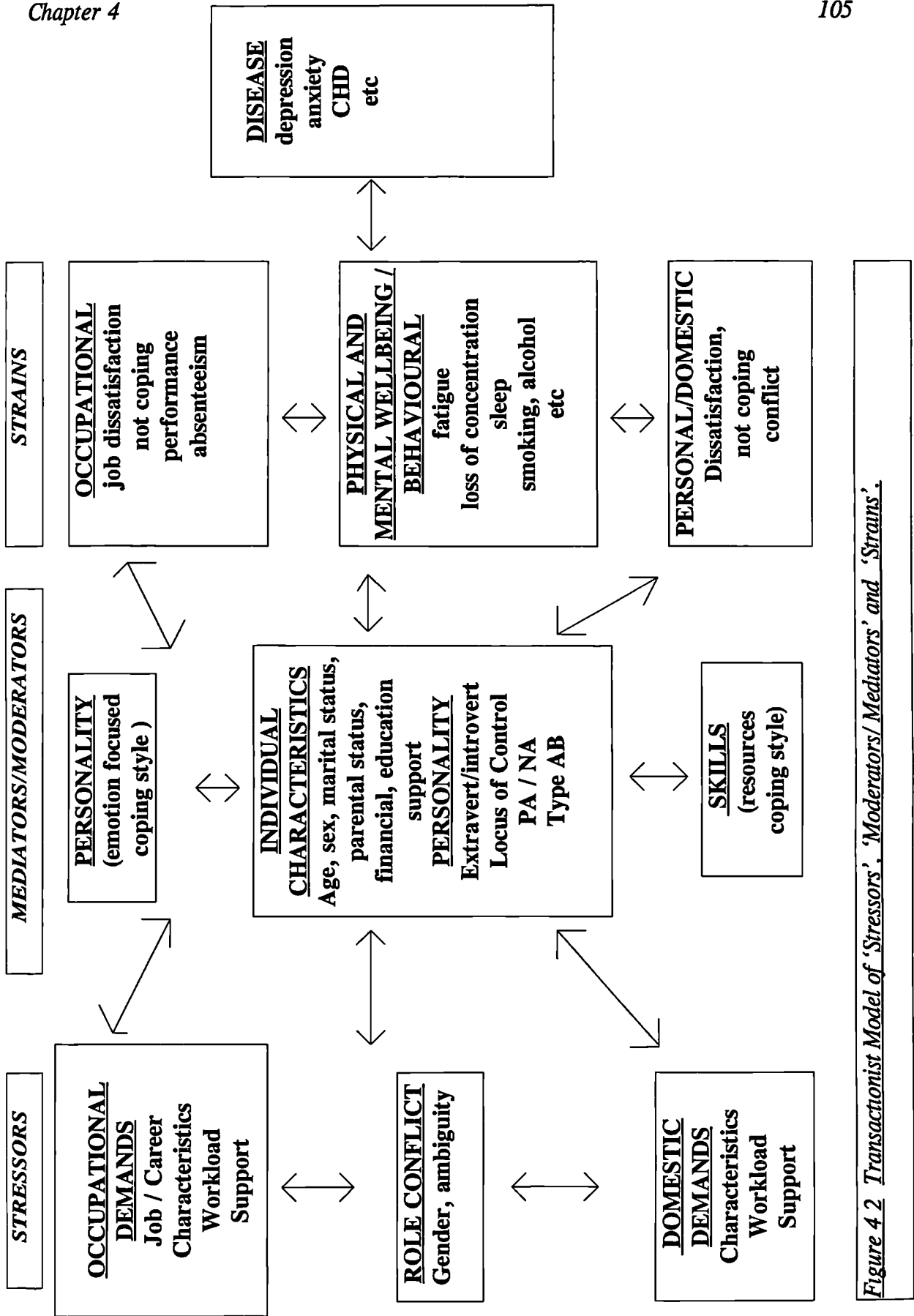


Figure 4.2 Transactionist Model of 'Stressors', 'Moderators/Mediators' and 'Strains'.

differences due to gender and to type of medical speciality are central to the investigation of stress and satisfaction. Other demographic features such as age, and marital and parental status are also considered to be important. The role of coping as an intervening variable is also investigated in the present study. Some factors which may influence the stressor-strain relationship such as socio-economic status, financial status and level of education, are assumed to be relatively constant variables in a population of doctors. Measurement of the role of personality factors such as extroversion/introversion, locus of control and Type AB personality, while potentially of some significance, is not a direct aim of the present study, and such measures were therefore not included. In order to improve compliance in a sample group such as doctors who receive many requests to complete questionnaires, it was also felt to be important to be economical in focus on the topic under investigation, by keeping the length of the questionnaire to a minimum. This premise was supported in feedback from the pilot of the questionnaire (see Chapter 5, page 124). However it is recognised that the inclusion of personality variables as background or 'noise' factors is an issue of importance in stress research, which will be addressed in future chapters.

c) Consequential Factors : Strains.

In the present study stress outcomes are measured in terms of perceived occupational and domestic dissatisfaction and conflict, variables which have been shown to be significant predictors of other stress outcomes such as work performance, absenteeism and physical and mental health. Although other outcome variables were considered, they are not included in the present study for the following reasons :

i) Because of the research methodology used, it was not possible to collect 'objective' data regarding work performance or absenteeism.

ii) Many other studies in stress in GPs and hospital doctors have used indicators of mental health as outcome variables, including the GHQ, HADS etc., (for example Firth-Cozens 1986, 1987, 1990; Cooper et al. 1989; Sutherland and Cooper 1993; Caplan 1994; Borrill et al. 1996; Deary et al. 1996) and replication of such results is not an aim of the present study.

m) The self-report postal questionnaire methodology used in this study was not felt to be the most appropriate means for collection of potentially sensitive information regarding physical and mental ill-health, particularly in a sample of medical practitioners who would be expected to have a high degree of awareness of such problems, which may have biased responses in terms of under-reporting. It was also felt that requests for such personal health information may have affected overall compliance with this study which used a self-report postal questionnaire. The final length of the questionnaire was also taken into consideration in the decision not to include such outcome measures.

Given the multivariate and essentially dynamic nature of the concept of 'stress', it is recognised that this model is a somewhat simplified representation. It should be noted that feedback loops between consequential strains, mediators or moderators, and stressors, are also hypothesised as part of the model, but could not be tested using the cross-sectional methodology used in the present study, so are not included here. However, the intention is that use of such a relatively 'economical' model will enable links between components to be more clearly identified and interpreted.

4.6 Plan of the Present Study

Selection of the sample, study methodology and measures employed in the operationalization of this model of stressors and strains are described in Chapter 5.

On this basis, the following series of research studies will examine the relationship between external stressors, internal characteristics and consequential strains, moving from systematic identification of relationships between stressors and strains, to more specific hypothesis and model testing, and including both quantitative and qualitative data analysis. This will be undertaken as follows:

Chapter 6 This chapter will provide an analytical overview of sources and levels of occupational stress and job satisfaction for male and female GPs and consultants using the Occupational Stress Indicator (OSI) (Cooper et al 1988), and examining sources of stress

and satisfaction specific to medicine in greater depth. Results will be compared with occupational norms for the OSI

Chapter 7 This chapter will focus on general practitioners. Comparisons between male and female general practitioners in terms of occupational stress and job satisfaction will be made with reference to demographic and practice characteristics, and in terms of perceived coping efficacy and use of coping strategies. The ability of coping efficacy and coping strategies to mediate or moderate the relationship between occupational stress and job satisfaction will be examined.

Chapter 8 In Chapter 8, consultant physicians in different types of medical speciality will be compared in terms of occupational stress and job satisfaction, and with respect to the impact of change within the NHS. Additionally, specialities which are numerically 'male-dominated' will be compared with those which are 'less male-dominated'.

Chapter 9 This chapter aims to examine gender differences in stereotyping of attitudes in medicine, and addresses the issue of the relative contribution of male and female gender stereotypes and gender-based social role stereotypes to the doctor's medical role.

Chapter 10 The final results chapter will address the relationship between occupational and domestic roles, using models of asymmetric permeability and additivity of roles in relation to occupational and domestic stress and satisfaction. The relative strengths of home to work stress, and work to home stress, and their relationship to role complexity for males and females will also be examined.

Chapter 11 The concluding chapter will summarise the results in terms of the transactionist model of stress, and indicate possible avenues for future research based on these results. Implications for reducing stress and increasing job satisfaction, for the doctors concerned, their patients, and for the NHS as a whole will be considered.

CHAPTER 5 :
Methodology of the Present Study

5.1 Introduction

Following a series of government white papers, the 'new' GP contract was introduced into general practice in 1990. The changes imposed represented a major alteration to the structure and ethos of general practice. Changes in the management structure and delivery of secondary care in the National Health Service (NHS), including the introduction of hospital trusts, also took place from 1990 onwards. Such changes were perceived as incurring a major increase in the stressfulness of the doctors role, and motivated the current investigation into occupational stress, job satisfaction and role conflict in doctors. Methodological difficulties in stress research have been highlighted in previous chapters. In particular, it was noted that previous studies have often failed to pay attention to differences in stressors and satisfactions between types of medical speciality, gender differences in workload, stressors and satisfactions, and the relationship between occupational stress and home life. The present study therefore aimed to address these issues.

5.2 Aims of the Study

The present study aimed to compare levels and sources of occupational stress and job satisfaction in a large, heterogeneous sample of male and female GPs and consultants in Scotland, using a theoretically based transactionist model. The role of gender and medical speciality type as intervening variables in the relationship between sources of stress and stress outcomes (i.e. job satisfaction) was also investigated. Detailed and specific aims for the separate studies are presented at the end of this chapter, pages 125-127.

5.3 Study Methodology

Although alternative definitions and perspectives of stress are offered, the foregoing chapters have indicated the usefulness of a broad-based transactionist theoretical approach to the study of stress, perceived in terms of relationships between stressors, mediators or moderators and strains, and this approach was adopted for the present study. In order to obtain a large, heterogeneous and representative sample of doctors, a cross-sectional, self-report questionnaire methodology was adopted. Although this

methodological approach can be criticised, it has the advantage of anonymity of response, eliminating interviewer bias, and providing a large amount of data at relatively low cost. It also enables a geographical spread of respondents to be obtained over a relatively short period of time. In order to minimise the possibility of respondent bias, and to make the questionnaire more interesting to complete, a mixed format of standardised scales, fixed response formats, single global items, visual analogue scales, and open-ended response formats was employed. To maximise response rates, attention was also paid to length of the questionnaire (see page 124), and to the content of the introductory letter (see Appendix I (a) and (b)).

5.3.1 Selection of the Sample

Given the multivariate nature of 'stress', a sufficiently large sample size was required to allow for multivariate statistical analyses. For example, a ratio of approximately 1:5 cases to variables is noted as the minimum acceptable requirement for multiple regression analysis (Tabachnik and Fidell, 1989). A main aim of the study was to compare both female and male doctors, and GPs and Consultants. A random sampling procedure was therefore used to obtain four approximately equal, large-sized groups to ensure sufficiently large cell sizes for analysis. Because the numbers of female consultants in Scotland as a whole are relatively small, (approximately 350 in 1991) selection of the comparison samples were based on this group size. The sampling frame being selected as follows:

a.) General Practitioners

The Primary Care Department of each Scottish Health Board (15 in total) was asked to supply a list of names and addresses of GP principals. Table 5.1 lists a breakdown by Health Board of the final numbers and percentages in each group, as at October 1991. It can be seen that the overall percentage of GPs in Scotland who were female was 26.4% at the time of the study, ranging from 37.7% in Greater Glasgow to 7.1% in the Western Isles.

Table 5.1 : Numbers of Female GPs, Male GPs, Female Consultants and Male Consultants in Sampling Frame, by Health Board, 1991/2 (Scotland)

Health Board	Total GPs		Females		Males		Total Consultants		Females		Males	
	n	%	n	%	n	%	n	%	n	%	n	%
Argyll and Clyde	302	27.8	84	27.8	218	72.2	216	72.2	24	11.1	192	89.9
Ayrshire and Arran	265	20.0	53	20.0	212	80.0	120	80.0	17	14.2	103	85.8
Borders	74	20.3	15	20.3	59	79.7	33	79.7	7	21.2	26	78.8
Dumfries and Galloway	108	18.5	20	18.5	88	81.5	58	81.5	3	5.2	55	94.8
Fife	216	20.4	44	20.4	172	79.6	96	79.6	19	19.8	77	80.2
Forth Valley	184	28.8	53	28.8	131	71.2	92	71.2	9	9.8	83	91.2
Grampian	332	19.3	64	19.3	268	81.7	225	81.7	35	15.6	190	84.4
Greater Glasgow	626	37.7	236	37.7	390	62.3	664	62.3	86	13.0	578	87.0
Highland	215	16.3	35	16.3	180	83.7	81	83.7	9	11.1	72	89.9
Lanarkshire	321	23.7	76	23.7	245	76.3	184	76.3	42	22.8	142	77.2
Lothian	506	31.4	159	31.4	347	68.6	457	68.6	69	15.1	388	84.9
Orkney	22	22.7	5	22.7	17	77.8	2	77.8	0	-	2	100.0
Shetland	18	11.1	2	11.1	16	88.9	3	88.9	0	-	3	100.0
Tayside	255	17.9	64	17.9	191	82.1	191	82.1	35	18.3	156	81.7
Western Isles	28	7.1	5	7.1	23	92.9	8	92.9	0	-	8	100.0
TOTAL	3472	26.4	915	26.4	2557	73.6	2430	73.6	355	14.6	2075	85.4

b.) Consultants

Similar information was requested from Health Boards as to numbers of hospital consultants. Table 5.1 also shows the number and percentage of female and male consultants in each Health Board area. At the time of the study the overall percentage of consultants in Scotland who were female was 14.6%, with a range from 22.8% in Lanarkshire to 0% in Orkney, Shetland and the Western Isles.

The study samples of each group were selected as follows to obtain roughly equivalent group sizes :

- a. a sample of approximately one in two of all female GP principals, selected alphabetically, starting at the letter 'a' from Health Board lists (n = 457);
- b. a sample of approximately one in five male GP principals, selected alphabetically, starting at the letter 'a' from Health Board lists (n = 483);
- c. a sample of every female consultant (n = 355);
- d. a sample of approximately one in six male consultants¹ (n=373);

This produced a total sampling frame of 1,668 individuals.

Since the sample of female consultants included all of those on Health Board lists, no stratification of the sample of male consultants by speciality was carried out, the intention being to obtain a male sample representative of all types of consultant speciality. It was recognised that this method may lead to a different distribution within specialities for males and females in the final sample, but stratification of the male sample according to the proportion of females in that speciality would have been rather complex, and would have resulted in a biased final sample.

¹ A methodological problem arose after questionnaires had been sent to female consultants and before the sample of questionnaires were sent out to male consultants. A second study to be carried out in Scotland shortly after the present study was proposing to carry out a parallel survey of occupational stress in consultants. In order to avoid the same subjects being sent questionnaires within a short time period, and confounding responses for the second study, two separate randomised samples of male consultants were generated by the researchers in the second study, using ISD data (ISD 1992b). The final sample of 373 male consultants in the present study was therefore provided using this randomised sample to generate a database of names and addresses.

5.3.2 Measures

The mixed-format questionnaire constructed for the study is presented in Appendix II. The wording of some questions was altered slightly to make versions applicable to GPs or consultants. Alternative wordings are indicated in the questionnaire. The questionnaire included 159 items in total for GPs and 153 items for consultants, and was estimated to take between 30 and 40 minutes to complete. The questionnaire included the following measures :

1.) Personal and Demographic Data

- a. Age was recorded in five year age bands.
- b. Questionnaires were printed colour-coded to indicate sex and speciality (GP or consultant)
- c. Marital status (married/cohabiting, single, separated, widowed, divorced)
- d. Medical and academic qualifications
- e. Length of time in post and total years practising medicine
- f. Number and total length of career breaks, and reasons for breaks

2.) Characteristics of the Job and Workload

- a. Job title (department, speciality for consultants) for main post, and any secondary posts.
- b. Hours worked per week in total, including hours spent at work and on call during normal working hours, but excluding time spent on call during the evenings or weekend.
- c. Whether NHS contract is full-time or part-time
- d. Whether job-sharing
- e. Amount of on-call commitment
- f. Other work commitments (e.g. lecturing, committees etc.)

Additionally, Details of Practice for GPs only

- g. Number of partners
- h. Gender of partners

- i. Number of assistants, trainees
- j. Practice geographical type (i.e. urban, rural etc.)
- k. Size of practice list (total number of patients)
- l. Size of own official Health Board patient list and personal list if different
- m. Number of patients for whom any deprivation allowance received.

Details of Speciality for Consultants only :

- n. Whether they do private work and if so, hours per week spent on private work
- o. Number of consultants sharing on-call rota

3.) Spouse or Partner's Occupational Role

- a. Spouse/partner's occupation
- b. Hours partner works per week
- c. Hours partner is on call or standby

4.) Family and Domestic Characteristics and Workload

- a. Parental status, number and age of children, and number of children currently living at home.
- b. Whether they have elderly or dependent relatives living with them
- c. Whether they have domestic help at home
- d. Number of hours per day spent on housework or childcare

5.) Domestic Satisfaction and Stress

- a. A series of five-point, likert style questions were constructed to measure global stress and satisfaction with aspects of home life - i.e. how stressful is home life, satisfaction with care of children or dependants, spouse/partner's contribution to housework /childcare, time for self/leisure, and partner's support of job demands.
- b. The existence of marital conflict related to work and sources of this conflict were examined in an open-ended format.

6.) Global Occupational Stress / Job Satisfaction

A series of five-point, likert style questions determined global ratings of occupational stress, and satisfaction with job, career and pay.

7.) Sources of Occupational Stress and Job Satisfaction

Two open-ended questions aimed at identifying medically specific sources of occupational stress and satisfaction were included. Subjects were asked to list up to five sources of stress and satisfaction in their job, rated in order of importance. These measures were included to enable occupation specific and speciality specific stressors to be identified, as an adjunct to the non-occupationally specific OSI scales selected for this research.

8.) Coping

- a. Global assessment of coping with stress (5 point likert scale)
- b. Coping strategies (open-ended question) : Respondents were asked to list separately, rated in order of importance, strategies they used themselves for coping with stress at work and at home.

9.) Impact of NHS Change

- a. Subjects were asked whether or not recent change in the Health Service had affected their day to day job, and if so,
- b. to list up to 5 ways in which their job had been affected by NHS change.

10.) Role Stereotypes and Comparisons

- a. Subjects were asked to list up to 3 perceived advantages and disadvantages of their own gender in medicine.
- b. Depending on their speciality (GP or consultant), subjects were asked whether they felt females or males experienced more stress at work.
- c. Subjects were asked whether they had experienced sexual harassment at work.

11.) Work and Domestic Role Attitudinal Descriptors

- a. A series of 10, 70mm visual analogue scales with dichotomous anchor points were used to investigate differences between attitudinal descriptors for both work and domestic roles. The following descriptors were selected to reflect differences in roles : organised /disorganised; assertive/ unassertive; valued/ taken for granted; weak/strong; in control/lack control; active/passive; calm/ hassled; aggressive/compliant; underused /overloaded; satisfied/dissatisfied.

12.) Occupational Stressors and Job Satisfaction

- a. Occupational Stress Indicator : Sources of Pressure Scale (61 items)
- b. Occupational Stress Indicator : How You Feel About Your Job Scale (22 items)

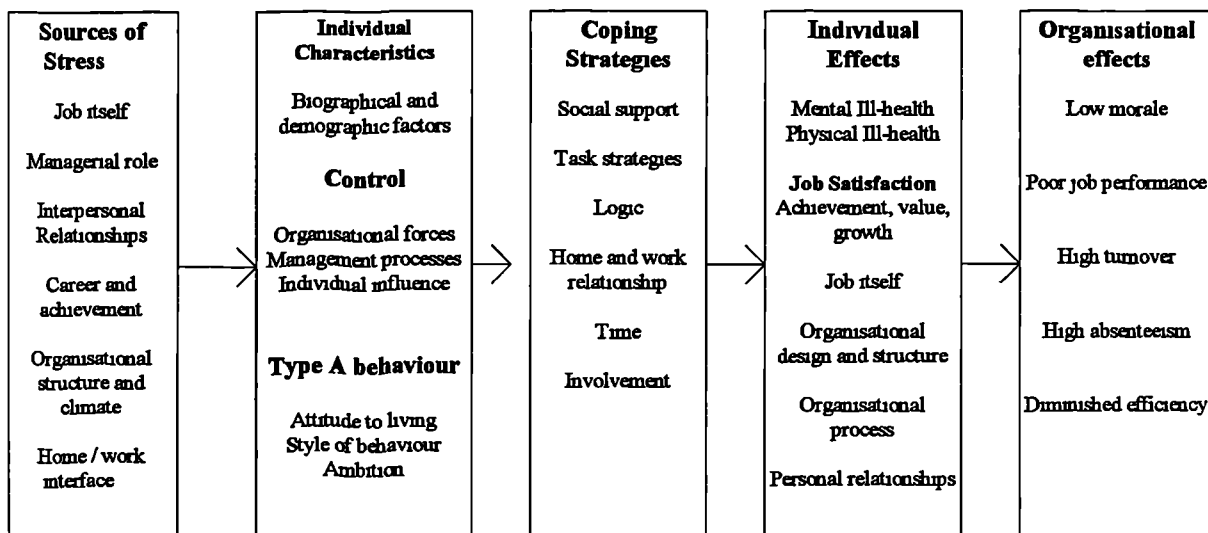
The Occupational Stress Indicator (OSI) (Cooper et al. 1988)

As discussed in the foregoing chapters, many measures have been devised and used in attempts to quantify and describe occupational stress. One problem which arises however is that many measures which have been developed are occupation specific, i.e. have only been used in a particular occupation or a particular study, and may not have been validated or applied outside the occupation in question. The corollary of this is that measures which are more general may lack face validity in occupations such as medicine which have particular characteristics of their own. In this sense it may be useful to include both general and occupation specific measures when assessing occupational stress. For the present study, occupation specific stressors were identified using open-ended questions (Question 7 above) and previously validated questionnaires were used to assess general occupational stress and job satisfaction.

The model on which the OSI is based is illustrated in Figure 5.1. This model includes four linked areas; sources of stress, individual characteristics, coping strategies, and individual and organisational effects. Job stressors are hypothesised to have direct predictive effects on outcomes such as job dissatisfaction and mental ill health. Individual variables such as locus of control, Type A behaviour and coping are conceptualised either as having direct effects on outcomes, or as moderators of the

stressor-outcome relationship The OSI, designed as a package to give an overall indication of levels of stress in organisational settings, is not therefore a diagnostic tool, but includes sections on occupational stress, Type A behaviour, locus of control, coping, mental and physical health and job satisfaction For the purposes of the present study, the 'Sources of Pressure' (occupational stress) and 'How You Feel About Your Job' (job satisfaction) scales were utilised

Figure 5.1 Model on which the Occupational Stress Indicator was Based



(From Occupational Stress Indicator Management Guide, Cooper CL, Sloan SJ, Williams S ASE 1988)

OSI Scales used in the Current Study

a 'Sources of Pressure' Scale (Occupational Stress)

This scale measures possible sources of pressure at work, including aspects of the link between home and work. There are six subscales comprising 61 items in total

(i) *Factors intrinsic to the job (9 items)*

The fundamental nature of the job itself, managerial work, amount and scope of tasks, hours, variety etc

(ii) *The managerial role (11 items)*

How individuals perceive the expectations others have of them, concerning behaviours they are expected to exhibit when occupying their positions and performing routine job tasks

(iii) *Relationships with others (10 items)*

Contact with other people inside and outside the organisation, including relationships with superiors

(iv) *Career and achievement (9 items)*

Awareness of position in management hierarchy, attainment of personal and 'corporate' success by career advancement

(v) *Organisational structure and climate (11 items)*

Design or structure of the 'organisation', work processes, and perceptions of these factors

(vi) *Home/work interface (11 items)*

The two way relationship or overlap between work and home

(Descriptions of subscales abridged from the OSI Management Guide, Cooper et al 1988)

All items are rated on a six point scale where 1 = Very definitely is not a source of pressure and 6 = Very definitely is a source of pressure, giving a potential range of scores of 61 to 366

Scale Construction

The 'Sources of Pressure' scale of the OSI was developed using statistical and interview-type data from a wide range of respondents in industry (Cooper and Marshall 1976, Arsenault and Dolan 1983, Cooper 1983) The validation studies were based on two samples of 90, and 156 middle or senior managers The scale was not factor analysed since the ratio of subjects to items in the validation study was reported as being too small (i.e. not greater than 4:1) Subscales were described as being 'derived from previous research' (Cooper et al 1988) Although the construction of the scale is open to criticism on these grounds, the OSI manual makes the point that it is not claimed that this scale measures every dimension of occupational stress, but rather includes central

components of occupational stress which have been identified as being of importance in previous research

Validity and Reliability

Split half reliability coefficients for these subscales reported in the OSI manual (all significant at $p < 0.01$ or greater) range from .36 for the 'factors intrinsic to the job' to .77 for the 'career and achievement' subscale. The rather low reliability for the 'factors intrinsic to the job' subscale illustrates the difficulty in constructing such a scale to be applicable to a range of diverse occupations. Alpha coefficients for these subscales reported in a subsequent study by Kahn et al. (1994) suggest greater reliability, ranging from .78 to .87. External (test-retest) reliability of the overall scale has not been established. Although face validity was described as 'positive' in pilot studies, construct validity has not been psychometrically determined for this scale.

In Cooper et al's model, job stressors are hypothesised to be predictive of outcomes such as mental health and job satisfaction. One validation study including the OSI 'Sources of Pressure' scale as an independent variable found that sources of pressure predicted 27% of variance in mental ill-health, but was a direct predictor of job satisfaction only when moderated by individual differences (locus of control or Type A behaviour) (Robertson et al. 1990). However, this study was carried out in an almost exclusively male sample of 105 managers, and failed to investigate construct validity for the Sources of Pressure scale.

b 'How You Feel About Your Job' (Job Satisfaction)

In the model on which the OSI is based, (Figure 5.1), job satisfaction is conceptualised as an outcome of occupational stress, moderated by individual differences. This 22 item scale measures job satisfaction using five subscales. Items are scored on a six point scale where 1 = very much dissatisfaction and 6 = very much satisfaction. The subscales are as follows:

1) Achievement, value, growth (6 items)

This concerns the way the individual perceives their current scope for

advancement, whether skills are challenged, and perception of value in terms of income and praise of effort.

ii) Satisfaction with the job itself (4 items)

The kind of work and amount of work tasks the individual performs.

iii) Satisfaction with organisational design and structure (5 items)

This measures satisfaction with the structure, nature and characteristics of the organisation.

iv) Satisfaction with organisational process (4 items)

This subscale measures satisfaction with internal processes such as flexibility and degree of participation.

v) Personal relationships at work (3 items)

This subscale measures satisfaction with relationships with other people at work, and the psychological 'feel' or climate of the organisation.

(Descriptions of subscales abridged from the OSI Management Guide, Cooper et al. 1988).

Scale Construction

The 22 items in the job satisfaction scale were factor analysed to create five subscales². The final factor solution which was utilised in the scale was based on one sample of 90 individuals. Scale 1 (Achievement, value, growth) was shown to account for 35% of variance whereas scale 5 (Personal relationships at work), comprising 3 items accounted for only 4.7% of overall variance.

Validity and Reliability

The split half reliability coefficients of the job satisfaction scale reported in the OSI manual range from .77 for 'Achievement, value growth' to .59 for 'The job itself' and 'Personal relationships at work' (all significant at $p < 0.01$ or more). It is noted elsewhere

² A sixth subscale 'Broad view of job satisfaction' was developed by Cooper et al to give an 'overview' of job satisfaction. This scale was developed using the individual items which loaded most highly on each subscale. The split-half reliability coefficient for this scale was quoted as 0.36 in the user manual (Cooper et al. 1988), which is unacceptably low. In the Data Supplement to the OSI (1993) the authors note that subsequent construct validity studies have shown broad view scales not to be useful: "We feel it is important for the users of the OSI to calculate total scores for Type A, control and job satisfaction and disregard the broad view scales" (page 5). As a consequence the 'Broad View' satisfaction scale will not be used in this research.

that the 'Personal relationships at work' subscale consists of only three items and as such has questionable validity (Klem 1993) Construct validity for the job satisfaction scale was determined by comparison with 16 items from Warr, Cook, Wall's (1979) job satisfaction scale, in a sample of management consultants (Robertson et al. 1990), and shown to be adequate ($r = .70, p < .001$), and similarly in a study of 31 blue-collar workers (Cooper and Williams 1990) ($r = .77, p < .001$) The predictive validity of this scale in terms of sickness absence has also been established in a subsample of 76 employees (no gender breakdown recorded) taken from a large sample of 1042 (of whom 77 % were female) employees of a health authority (Rees and Cooper 1991) A study including samples of 236 managers and 377 shopfloor workers also established predictive validity in terms of absenteeism (Cooper and Bramwell 1992)

Justification for Use of OSI

Notwithstanding the obvious limitations regarding validity and reliability of scale construction, the OSI in its entirety has been one of the most widely used measures of occupational stress, and has been used internationally over a wide range of occupations The availability of norms for 22 studies in the most recent data supplement to the OSI (Cooper et al. 1994) is testament to the breadth of its use, and Combined Sample norms presented in the OSI supplement are based on 'approximately 7,000 to 8,000' cases The studies on which these norms are based include a community study, studies of health authority workers and university staff, blue collar factory workers, and general practitioners

The general applicability of the OSI scales, and availability of comparative data with other occupations for occupational stress and job satisfaction were important factors in the selection of the OSI occupational stress and job satisfaction scales for the current study A further benefit of these scales was their applicability to a range of managerial occupations and focus on managerial issues Since recent changes in the structure of the NHS were perceived as encompassing an increasingly managerial component, which was a hypothesised source of stress and dissatisfaction for subjects in the current study, these scales were therefore seen as particularly relevant

5 3 3 Procedure

5 3 3 1 Pre-Study Pilot

A questionnaire was drafted containing the measures as listed above, together with an additional measure, the 66 item 'Coping Strategies Checklist', which had been developed in a sample of nurses, so was perceived to be applicable to other medical professions (Dewe 1987) Approximately three months before the start of the main study, a small scale pilot study was carried out to test the proposed questionnaire in terms of the following criteria

- 1 *General acceptability and applicability of questions* - respondents were asked to comment on the wording of questions, whether the meaning was clear, and whether issues were perceived as applicable to their own medical practice
- 2 *Whether major issues relevant to perceived stress and job satisfaction had been addressed* - respondents were asked to identify any additional relevant items which had been omitted from the questionnaire
- 3 *Time taken to complete* - respondents were asked to record how long each section of the questionnaire took to complete
- 4 *Whether overall length and layout of questionnaire was acceptable*

Pilot questionnaires were sent to all 18 members of the Forth Valley GP Research Group (4 female, 14 male general practitioners) and three hospital consultants (all female) in the local area These subjects were subsequently excluded from the sampling frame for the main study A covering letter explained the proposed study and the above evaluation criteria Since respondents were known to the author, replies to the pilot questionnaires were not anonymous

Results and Conclusions of Pilot Study

All questionnaires were returned, giving a total of 21 questionnaires (7 female, 14 male) No analysis of individual responses to questions was conducted Comments from respondents were as follows

1. *General acceptability and applicability of questions* : The questions were considered to be generally acceptable. Some questions which were seen to be unnecessarily detailed were deleted following comments, e.g. details of childcare arrangements. One question aimed at assessing overall degree of departmental responsibility for consultants, in terms of size of population served, and responsibility for number of beds was subsequently deleted, as it was judged to be not applicable to all consultants, and to be difficult in some cases for the individual to estimate with any degree of accuracy. Wording of some questions was altered to make them more explicit, and ranking of responses was added to open-ended questions to indicate the relative importance of individual responses. Some questions in the OSI 'Sources of Pressure' scales were felt by respondents to be not relevant to doctors in general, (e.g. 'business travel and living in hotels' and 'a lack of encouragement from superiors'). However, to preserve the original structure of these scales, and to allow comparison with normative data, it was decided to retain these items in the final questionnaire, and to subsequently investigate the final psychometric structure of these items.

2. *Whether major issues relevant to perceived stress had been addressed* :

- No additional areas were identified by the respondents

3. *Time taken to complete* - Respondents were asked to record total time taken to complete the pilot questionnaire. This ranged from 20 to 45 minutes.

4. *Whether overall length and layout of questionnaire was acceptable* - Over half of the respondents described the questionnaire as being over-long, and stated that they felt this would reduce compliance. The Coping Strategies Checklist, with 66 items was felt to be particularly long and non-relevant. This scale was therefore subsequently removed and replaced by a single-item global measure of coping and an open-ended question aimed at identifying strategies actually used for coping by respondents.

5.3.3.2 The Present Study

Incorporating suggested changes on the basis of responses to the pilot study, the present study used a cross-sectional methodology, employing a self-report postal questionnaire including a mixture of response formats. In order to preserve the anonymity and confidentiality of the respondent, subjects were asked not to enter their name on the

returned questionnaire. This meant that only one mailing of the questionnaire could be sent. Following the suggestion from Smith et al. (1985) that a letter sent from a doctor is likely to achieve a better response rate, the accompanying letter, (Appendix I) was sent from fellow medical practitioners. Since the study was carried out in two phases a few months apart, separate letters were constructed for female doctors (Phase 1) and male doctors (Phase 2). The letters described the proposed study and stressed the anonymous and confidential nature of the research, and were signed by the administrator and Chairperson of the Forth Valley General Practice Research Group. A pre-paid return envelope was also enclosed, together with a reply-paid post card to be returned separately by those respondents who required a future copy of the results of the research. The questionnaire was sent to the work address of each subject. Copies of the letters are included in Appendix I (a) and (b).

In order to facilitate data handling, questionnaires were posted in two batches in the following order: 1) Phase 1 : female GPs and female consultants; 2) Phase 2 : male GPs and male consultants. Phase 1 questionnaires were posted between November 1991 and January 1992, and Phase 2 questionnaires were posted between November 1992 and January 1993.

5.4 Detailed Research Questions

The following specific research questions are addressed in subsequent chapters :

Chapter 6:

- a. How do female and male doctors (GPs and consultants) differ with respect to sources and levels of occupational stress ?
- b. How do female and male doctors (GPs and consultants) differ with respect to sources and levels of job satisfaction ?
- c. How do GPs and consultants' overall differ in terms of both sources and levels of occupational stress and job satisfaction ?
- d. How do occupational stress and job satisfaction vary by individual doctors' age, and workload ?

- e. What is the relationship between occupational stress and job satisfaction as measured by the OSI scales?
- f. How do GPs and consultants compare with individuals in other occupations in terms of sources and levels of occupational stress and job satisfaction ?

Chapter 7 :

- a. How do GPs levels of occupational stress and job satisfaction, vary by gender, practice characteristics and workload ?
- b. What is the relationship between occupational stress, job satisfaction and perceived coping efficacy, and how does this relationship vary for male and female GPs?
- c. What specific strategies, or types of strategy are used by GPs to cope with occupational stress, and do such strategies vary for male and female doctors?

Chapter 8 :

- a. Do workload, occupational stress and job satisfaction vary by type of medical speciality for consultants ?
- b. How do consultants in different types of medical speciality compare with individuals in other occupational groups in terms of levels of occupational stress and job satisfaction?
- c. How do male and female consultants in medical specialities which are numerically male-dominated compare with those in specialities which are numerically less male-dominated in terms of workload, and sources and levels of occupational stress and job satisfaction?
- d. What has been the impact of change within the National Health Service on consultants in different types of medical speciality?

Chapter 9:

- a. What is the relationship between gender-based and gender-role based stereotype components for male and female doctors, considering both advantageous and disadvantageous stereotypes?
- b. What is the impact of demographic differences, i.e. age, marital status and parental status, in the perception of gender-based and gender-role based stereotypes in medicine?

- c. How do perceived male and female personality trait stereotypes vary for doctors in different types of medical speciality, comparing GPs and consultants, and consultants in different speciality types ?
- d. What is the relationship between reporting of gender-based and gender-role based stereotypes and levels of occupational stress, job satisfaction and domestic stress?

Chapter 10:

- a. Is there a relationship between complexity of domestic roles and occupational and domestic workload in terms of hours worked, time on call, and hours spent on domestic work?
- b. What is the relationship between increased complexity of domestic roles and occupational stress and job satisfaction? How is this relationship mediated or moderated by gender, and by type of medical speciality (GP or consultant)?
- c. With reference to the theory of asymmetrical permeability of occupational and domestic roles, what is the relative strength of relationship between work to home (WH) stress in comparison with home to work (HW) stress? How does this relationship vary by gender and type of medical speciality?
- d. What is the relationship of increasing role complexity to WH and HW stress?

5.5 Statistical Analysis

All data was analysed using the Statistical Package for the Social Sciences (SPSS-x) (SPSS 1990).

- a. Descriptive frequencies were determined for each variable to establish normality and the overall pattern of responses.
- b. All respondents were included in analysis. Missing data was replaced with mean values. This is a conservative method as overall means do not change.
- c. Prior to analysis, frequency plots of each of the variables were examined for normality, skewness and kurtosis. Where values for skewness and kurtosis fell outside the acceptable range (i.e. between 0 and 1 as noted in Ferguson and Cox 1993), transformations were considered, but in all cases such transformations did not significantly affect results so were not used in the final

- analysis. To assess linearity, bivariate scatterplots of independent and dependent variables were examined. Linear relationships were found in each case.
- d. Nominal data was examined by Chi square analysis
 - e. Ordinal data was examined by Chi square analysis, or t-tests. Gardner (1975) has argued that assumptions that parametric techniques require interval data are by no means conclusive, concluding that such techniques are sufficiently robust to be applicable to some ordinal data. In the light of Gardner's conclusions, the likert type items assessing levels of stress and satisfaction were treated as interval data for some analyses and comparisons between groups were conducted using t-tests.
 - f. For interval data, mean values were compared using 2-tailed independent t-tests.
 - g. Analysis of variance (ANOVA) and covariance (ANCOVA) were used where appropriate to investigate differences between group means. Post hoc comparisons were made using the Scheffe test.
 - h. Where multiple dependent variables are assessed, multivariate analysis has the advantage of dealing economically with large numbers of variables, reducing the probability of type 1 errors, and providing more sensitive estimates of the effects of independent variables (Tabachnik and Fidell 1989). Since most stress research is multivariate in nature, such techniques are particularly appropriate in this field. In the present study, multivariate analysis of variance (MANOVA) or multivariate analysis of covariance (MANCOVA) were used, with the OSI scales as dependent variables.
 - i. Parametric (Pearson's r) or non-parametric (Spearman's ρ) correlation coefficients were used where appropriate to investigate the strength and direction of relationships between variables. To assess the predictive ability of independent variables, multivariate hierarchical regression techniques were used (Tabachnik and Fidell 1989).
 - j. By combining variables, factor analysis or principal components analysis has the advantage of reducing the number of variables used in multivariate analyses. Three guidelines are offered as a preliminary to factor analysis : the subjects to variables ratio should be between 2:1 and 10:1; minimum number of subjects

between 100 and 200, and the proportion of variables and subjects to expected factors should be between 2:1 and 6:1 (Ferguson and Cox 1993). The present study data fulfilled all of these criteria. Principal components analysis was therefore used to determine whether scale items formed coherent subsets for the 'Home/Work Interface' OSI scale (see Chapter 10). Using oblique rotation, components with eigenvalues >1.0 (Kaiser rule) were identified. Scores on these components were subsequently used as variables in analysis of variance and hierarchical regression analysis.

CHAPTER 6 :

**A Comparison of Stress and Job Satisfaction
in Female and Male
General Practitioners and Consultants**

6.1 Summary

This study aimed to examine occupational stress and job satisfaction in a large sample of doctors in Scotland, using a self-report questionnaire methodology. Questionnaires were completed by 547 male and female general practitioners and 439 consultant doctors in Scotland during a period of structural change in the health service. Measures included widely used, reliable and valid scales from the Occupational Stress Inventory (OSI) (Cooper et al. 1988), and open-ended reporting of sources of stress and satisfaction. The study sought to determine sources and levels of occupational stress and job satisfaction, considering medical speciality type (GP or consultant), gender, age, and workload as intervening variables in the stressor-strain relationship. The relationship between occupational stress and job satisfaction was investigated, and comparisons with other occupations were made using Combined Sample Norms for the OSI.

Comparisons with Combined Sample Norms showed that GPs and consultants in the Scottish sample had generally greater job satisfaction and less occupational stress than norms, which was contrary to expectations. When GPs and consultants were compared using t-tests, GPs were found to report significantly more occupational stress than consultants on three out of six subscales, and consultants to report greater job satisfaction than GPs on three out of five job satisfaction subscales. Although there were significant gender differences in terms of workload, increased workload was not significantly associated with increased levels of occupational stress or reduced job satisfaction. However, age was shown to have a negative relationship with occupational stress and a positive relationship with job satisfaction, and when age was controlled, multivariate analysis revealed a slightly different pattern of results for occupational stress, with consultants reporting greater stress, but not for job satisfaction.

Multivariate analysis, controlling for age, also revealed a significant gender effect on three occupational stress subscales and two job satisfaction scales, with males reporting greater stress on two subscales and females reporting greater stress on one subscale, and females reporting greater job satisfaction than males on two subscales. Significant interaction effects of job and gender were also found on two occupational stress

subscales and four out of five job satisfaction subscales. Open-ended reporting of stressors confirmed that there were significant gender differences in specific areas of stress and satisfaction.

There was a significant negative relationship between each of the occupational stress subscales and job satisfaction, although, as noted in other stress research, the combined subscales were found to predict only a small proportion of variance in job satisfaction.

The findings of this study have implications for health service management, particularly in terms of providing support, training in management, and advice for dealing with stress for younger doctors.

6.2 Introduction

The rate of change in the National Health Service (NHS) in Britain has been increasing in the last 15 years in the Government's drive to increase cost efficiency in health care. The most recent and radical changes have been the focus of considerable media attention and the source of much reported dissatisfaction in doctors, and are perceived as contributing significantly to doctors' workload (Sutherland and Cooper 1992; BMA 1992, Hannay et al. 1992). Reports suggest that morale within both primary and secondary care sectors of the health service is reduced as a result of recent changes in the delivery of health care (BMA 1991; Holton and Hastie 1991; BMA 1996).

Although evidence suggests that doctors' physical health is better than for comparative groups (Allibone et al. 1981; BMA 1993), their mental health has been shown to be poorer (Borrill et al. 1996). For example, it is argued that doctors suffer from more job related anxiety and depression (Krakowski 1982; Rucinski and Cybulska 1985; Belfer 1989; Caplan 1994), have a higher incidence of suicide (Richings et al. 1986; Lindeman et al. 1996), and more alcohol and drug abuse related problems than other professionals (Murray 1976; Brooke et al. 1991). Studies have related these 'strains' to high levels of occupational stress among doctors. Previous research in primary and secondary care physicians has investigated both sources and outcomes of occupational stress (Mawardi 1979; Cooper et al. 1989; Winefield and Anstey 1991; Richardsen and Burke 1991; Kirwan and Armstrong 1995) and structural and organisational aspects of doctors' workload (Wilson et al. 1991; Howie et al. 1992a, 1992b) which contribute to stress. Doctors have previously been shown to have high levels of autonomy and control over their work compared with other professions, which has been linked to relatively high levels of job satisfaction (Mawardi 1979; Branthwaite and Ross 1988). More recent research has suggested this job satisfaction may have been eroded by changes in the structure of the health services (Sutherland and Cooper 1992; BMA 1991), and wider societal changes in attitudes to health care, for example increased demands from patients and the increased threat of litigation (Bates 1982; Caplan 1994). Previous studies have also indicated a relationship between reduced levels of job satisfaction and mental ill

health in medical professionals, (Belfer 1989, Cooper et al. 1989) and between job dissatisfaction and reduced quality of patient care (Melville 1980, Grol et al. 1985)

Specialty Differences

Research has suggested that some medical specialities, for example anaesthetics and general family practice are intrinsically more stressful than others, resulting in greater 'impairment' (Mawardi 1979, Talbott et al. 1987, Ramirez et al. 1996), but few studies have compared levels and sources of occupational stress between primary care practitioners (GPs) and secondary care practitioners (consultants). In order to help both doctors and managers adjust to new structures, it is important to be able to identify the particular aspects of medical work which influence occupational stress and job satisfaction for doctors in both primary and secondary care sectors.

Gender Differences

At the time of this study, female doctors made up approximately 30% of GP principals and 15% of consultants in Scotland (ISD 1992a, 1992b). Previous research has suggested that female GPs report greater job satisfaction than their male colleagues, but similar levels of occupational stress (Cooper et al. 1989, Sutherland and Cooper 1992). Female and male consultants have not previously been compared with respect to occupational stress and job satisfaction. Some studies suggest that female and male doctors fulfil different roles within their job, for example the 'psychosocial' versus the 'clinical' role (Branthwaite and Ross 1988, Simpson and Grant 1991). If this is the case it is important to identify areas which are differentially stressful for males and females.

Age and Stress

The relationship between age and occupational stress and job satisfaction in medical careers is unclear in the literature. Although most research has concentrated on the stressfulness of medical training in terms of long hours and heavy workload (Firth-Cozens 1987), studies of general practitioners have variously suggested that both younger doctors (Winefield and Anstey 1991) and older doctors (Cooper et al. 1989) experience greater degrees of occupational stress. For younger doctors, demands of family life may coincide with learning and establishing a role in a new job. Older doctors may find it less easy to adapt to change, and also have greater managerial responsibility within their job. A more recent study investigating the relationship between age and

mental ill health in NHS employees as a whole has suggested that there may be a curvilinear relationship between age and mental health, with both older and younger individuals working in the health service reporting better mental health than those in the middle 26-45 age range (Borrill et al. 1996)

Workload

Recent change and restructuring in the NHS has led to a perceived increase in workload in general practice (Hannay et al. 1992, Myerson 1992) One way of coping with heavy workload and greater time pressure is to increase working hours both in the workplace and by working at home, which in turn leaves less time for relaxation or leisure and may impact on the quality of family life The out of hours on-call system in medicine may also affect family life, and has been linked with additional fatigue and stress (BMA 1992, Myerson 1992, Hallam 1994)

Aims

The present study sought to investigate sources and levels of job satisfaction and occupational stress with respect to gender and medical specialty in female and male principals in general practice and hospital consultants, using widely applied, previously validated scales to enable comparisons with normative data, and open-ended questions to allow identification of stressors and satisfactions specific to medicine A further aim being to investigate the impact of age, hours worked and on call commitment on levels of occupational stress and job satisfaction

6.3 Method and Subjects

An anonymous and confidential questionnaire was sent out by the Forth Valley General Practice Research Group to a randomly selected sample of 1,668 GPs and consultants in Scotland. The first phase of questionnaires were sent out to female GPs and consultants During the second phase, questionnaires were sent out to male GPs and consultants, sampled to form comparable sized subject groups The procedure and selection of the sampling frame for the study is described in detail in Chapter 5

6.4 Measures

The questionnaire is also described in Chapter 5

- i.) Age was recorded in nine five year age bands from 26-30 to over 65
- ii.) Workload was assessed in terms of hours actually worked per week, (excluding time spent on call), and whether NHS contract was full-time or part-time
- iii.) Time spent on-call for weekdays was recorded in 12 categories from 1= 'none' to 12 = 'continuous' Time spent on-call at weekends was recorded in 8 categories from 1 = 'none' to 8 = 'continuous' (see Footnote 1, Table 6 1)
- iv.) Levels of job satisfaction and occupational stress were assessed by the inclusion of scales from the Occupational Stress Indicator (OSI) (Cooper et al. 1988) These scales have been validated and applied widely across a range of mainly white collar and managerial occupational groups (see Chapter 5), including a community sample, and a sample of GPs in England and Wales, and were selected to take account of doctors' increasingly managerial role, and to allow comparisons to be made between GPs, consultants in a range of medical specialties, and other occupational groups Content and scoring of the OSI 'Sources of Pressure' (occupational stress) scale and the 'How You Feel About Your Job' (job satisfaction) scale, are described in full in Chapter 5
- v.) 'Medically specific' sources of stress and satisfaction . The OSI occupational stress and job satisfaction scales do not address areas of stress or job satisfaction which may be specific to medicine In order to provide information about 'medical' issues, subjects were invited to list up to 5 sources of occupational stress and 5 sources of job satisfaction, in an open-ended response format Responses were listed in full and subsequently coded by the author into 20 dichotomous (recorded / not recorded) categories of sources of occupational stressors and 20 categories of sources of job satisfaction, representing the range of responses To allow for potential differences in the characteristics of medical work for GPs and consultants, response categories were determined separately for each of these occupational groupings

6.5 Analysis

Independent t-tests were used to examine differences between male and female GPs and consultants in terms of occupational stress, job satisfaction, age group, hours worked

and amount of time on-call for weekdays and weekends. Mean age was also calculated from age groupings. Comparisons between group subscale means and norms for the OSI (Cooper et al. 1994) were also investigated using independent t-tests. A conservative significance level ($p < 0.01$) was adopted for t-tests to minimise the likelihood of type 1 error. Prior to analysis, frequency plots of each of the variables were examined for normality, skewness and kurtosis. All values for skewness and kurtosis fell between 0 and 1, suggesting adequate normality of distribution (Ferguson and Cox 1993). To assess linearity, bivariate scatterplots of age, hours worked, and the dependent variables (occupational stress and job satisfaction subscales) were examined. Linear relationships were found in each case.

Also prior to the main analysis, the internal reliability of the OSI job satisfaction and occupational stress scales and subscales was assessed for the whole sample using Cronbach's α . Alpha coefficients for the subscales are presented in Tables 6.1(a) and 6.2(a). As anticipated, both the occupational stress and job satisfaction scales were found to have a high degree of internal reliability (Cronbach's $\alpha = .93$ and $.92$ respectively). The internal reliability of the occupational stress subscales ranged from $.58$ (factors intrinsic to the job), to $.80$ (home/work interface). Reliability of the job satisfaction subscales ranged from $.62$ (personal relationships) to $.82$ (achievement, value, growth).

The job satisfaction and occupational stress subscales of the OSI were analysed separately using multivariate analysis of covariance (MANCOVA) with the OSI subscales as dependent variables. Examination of preliminary analyses, with hours worked, amount of time on call, and age as covariates indicated that neither hours worked nor amount of on-call significantly affected the dependent variables. Subsequent MANCOVA was therefore carried out with age as the single covariate. Independent variables were sex (male - female) and speciality (GP - consultant). Degrees of freedom varied slightly as not all questions were completed by all subjects, and subjects with missing data on any of the subscale items were excluded from the multivariate analysis. Pearson correlations and multivariate regression analyses were carried out to examine

the relationship between the Job Satisfaction total score and the Occupational Stress scales of the OSI Comparisons between males' and females' responses to medical occupation-specific sources of occupational stress and job satisfaction were carried out using chi square analysis

6.6 Results

Characteristics of the Sample

A total of 986 doctors returned questionnaires, 283 female GPs, 264 male GPs, 224 female consultants and 215 male consultants The response rate was higher for female GPs (62%), and for female consultants (63%) than for male GPs (55%), and male consultants (58%) (overall response rate 59%)

Age

The GPs in the study were significantly younger (mean age = 41.3) than the consultants (mean age = 46.7) (mean age groups 3.6 and 4.5 respectively, $t=8.02$, $df=979$, $p<0.001$), and male GPs and consultants (mean age = 44.9) were significantly older than female GPs and consultants (mean age = 41.6) (mean age groups 4.4 and 3.7 respectively, $t=5.90$, $df=979$, $p<0.001$)

Hours Worked

A significantly larger proportion of female GPs held part-time NHS contracts ($n=80$, 28.5%) than either female consultants ($n=37$, 16.5%), male GPs ($n=1$, 0.4%) or male consultants ($n=35$, 16.3%) ($\chi^2 = 81.98$, $df=3$, $p<0.0001$)

Excluding time spent on call, consultants worked significantly more hours per week, (mean hours worked = 48.9) than GPs (mean hours worked = 41.4), ($t = 9.64$, $df = 941$, $p<0.001$) This difference was maintained when female doctors on part-time contracts ($n=117$, 12% of whole sample) were excluded from the analysis (mean hours worked per week = 44.3 for GPs, and 49.8 for consultants ($t = 7.27$, $df = 792$ $p<0.001$)) Again excluding those on part-time contracts, female GPs and consultants were found to work significantly fewer hours per week (mean hours worked = 44.2) than males (mean hours

worked = 48.9) ($t=6.13$, $df=792$, $p<0.001$). Consultants in the study also spent significantly more time on call GPs on weekdays and weekends than GPs, and males spent significantly more time on call than females, as shown in Table 6.1

Table 6.1 : Time On-call for Weekdays and Weekends Comparing GPs and Consultants, and Males and Females.

<u>On-call</u>		¹ <u>Category</u>		<u>t</u>	<u>df</u>	<u>p</u>
		<u>Mean</u>	<u>(SD)</u>			
Weekdays	GPs	7.58	(2.97)	3.96	932	0.001
	Consultants	6.20	(3.06)			
Weekends	GPs	4.83	(1.56)	5.09	884	0.001
	Consultants	4.25	(1.77)			
Weekdays	Females	6.34	(3.33)	8.94	932	0.001
	Males	8.05	(2.40)			
Weekends	Females	4.14	(1.91)	7.25	884	0.001
	Males	4.95	(1.34)			

1 Note : On-Call Groups

Weekdays : 1= none; 2= only occasional; 3 = >1 per month - 1 per 3 months; 4= 1:14 - 1:28; 5= 1:8 - 1:14; 6= 1:7; 7= 1:6; 8= 1:5; 9= 1:4; 10= 1:3; 11= 1:2; 12= continuous.

Weekends : 1= none; 2= only occasional; 3= >1 per 3 months; 4= every 2-3 months; 5= 1 per month; 6= 1:3; 7= 1:2; 8= continuous.

Occupational Stress

Comparisons between GPs and consultants in terms of occupational stress, using t-tests are shown in Table 6.2 below. GPs recorded significantly greater stress levels than consultants in terms of 'factors intrinsic to the job', 'managerial role' and 'home/ work interface' subscales (all $p<0.01$ or above), whereas consultants recorded greater stress than GPs in terms of the 'organisational structure and climate' subscale ($p<0.001$).

Comparison With Combined Sample Norms

Comparisons revealed that GPs recorded significantly lower stress scores than the combined sample norms on the 'career and achievement' and 'organisational design and structure' subscales as shown in Table 6.2, with no significant difference between GPs

and norms found on the other four subscales. Consultants had significantly lower scores than norms on all stress subscales apart from 'relationships with others', where there was no significant difference between consultants' and normative scores.

Table 6.2 : Mean Scores (SD) for 547 GPs and 439 Consultants in Comparison with Combined Sample Norms (N=approx 7,500) on OSI Occupational Stress Subscales

<u>Occupational Stress Subscale</u>	<u>Group</u>	<u>Mean</u>	<u>(SD)</u>	<u>GP and Consultant Comparisons</u> t	<u>Comparisons with Norms</u> t
1. Factors intrinsic to the job	GPs	30.05	(5.82)	2.98**	1.49
	Cons	28.89	(6.16)		
	Norm	30.22	(6.48)		
2. Managerial role	GPs	35.42	(8.24)	3.01**	0.98
	Cons	33.80	(8.15)		
	Norm	35.55	(8.47)		
3. Relationships with others	GPs	30.14	(7.12)	.68	1.35
	Cons	30.46	(7.35)		
	Norm	30.31	(7.71)		
4. Career and achievement	GPs	17.51	(7.24)	1.84	84.47***
	Cons	18.38	(7.12)		
	Norm	28.40	(8.11)		
5. Organisational structure and climate	GPs	30.48	(8.78)	6.78***	61.14***
	Cons	34.42	(8.85)		
	Norm	38.99	(9.21)		
6. Home / work interface	GPs	30.92	(8.86)	4.00***	0.48
	Cons	28.63	(8.97)		
	Norm	30.99	(10.26)		

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

Job Satisfaction

As shown in Table 6.3 below, consultants recorded significantly more job satisfaction than GPs in terms of 'achievement, value, growth', the 'job itself', and 'organisational process' subscales, (all p<0.001) and GPs recorded significantly greater job satisfaction than consultants in terms of the 'organisational design and structure' and 'personal relationships' subscales (both p<0.01 or above).

Table 6 3 Mean Scores (SD) for 547 GPs and 439 Consultants in Comparison with Combined Sample Norms (N=approx 7,500) on OSI Job Satisfaction Subscales

<u>Job Satisfaction Subscale</u>	<u>Group</u>	<u>Mean</u>	<u>(SD)</u>	<u>GP and Consultant Comparisons t-test</u>	<u>Comparisons with Norms t-test</u>
1 Achievement, value, growth	GPs	22.38	(5.40)	5.03***	9.82*** 23.55***
	Cons	24.14	(5.37)		
	Norm	21.32	(5.79)		
2 Job Itself	GPs	16.02	(3.40)	3.66***	4.09*** 5.38***
	Cons	16.38	(3.39)		
	Norm	16.35	(3.22)		
3 Organisational design and structure	GPs	17.92	(4.15)	5.84***	16.30*** 0.78
	Cons	16.32	(4.23)		
	Norm	16.40	(4.26)		
4 Organisational process	GPs	14.02	(3.32)	4.08***	14.65*** 3.94***
	Cons	14.93	(3.52)		
	Norm	15.31	(3.77)		
5 Personal relationships	GPs	12.04	(2.64)	3.35**	5.85*** 2.13
	Cons	11.45	(2.80)		
	Norm	11.62	(2.53)		
6 Total Job Satisfaction Score	GPs	81.81	(16.05)	1.33	1.49 1.25
	Cons	83.22	(16.70)		
	Norm	82.08	(16.60)		

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

Comparing the study sample with Combined Sample Norms for the OSI, consultants reported significantly more job satisfaction in terms of 'achievement, value growth' and 'the job itself' in comparison with norms and reported 'organisational process' and 'personal relationships' to be significantly less satisfying in comparison with norms (all p<0.001). GPs reported significantly greater job satisfaction than norms in terms of 'achievement, value, growth', 'organisational design and structure' and 'personal relationships' subscales (all p<0.001). 'The job itself' and 'organisational process' were reported as significantly less satisfying by GPs in comparison with norms (both p<0.001). There was no significant difference in total job satisfaction scores between GPs or consultants in comparison with normative data.

Multivariate Analysis Occupational Stress

Mean scores for female and male GPs and consultants, together with results of the multivariate analysis of covariance for the six subscales of the OSI Occupational Stress Scale are shown in Tables 6 4 (a) and 6 4 (b) Male GPs recorded the highest scores on two subscales, female GPs on one subscale and female consultants on 3 subscales Using Wilks' criterion the combined stress subscales were shown to be significantly related to the covariate age, and variables sex, speciality, and their interaction. Regression analysis revealed a negative association between age and each of the stress subscales, indicating that younger doctors found their work more stressful. The main effects of sex and speciality (GP, consultant) were also shown to affect stress scores Subsequent univariate analyses for each subscale showed that males were significantly more stressed by 'factors intrinsic to the job', and their 'managerial role' Females were more stressed by the 'home/work interface' Consultants reported greater stress than GPs on three subscales 'relationships with others', 'career and achievement' and 'organisational structure and climate' Two subscales showed a sex by speciality interaction effect Male GPs found 'factors intrinsic to the job' most stressful, and female consultants found 'organisational structure and climate' most stressful.

Table 6 4 (a) Mean Scores and Standard Deviations (SD) for Female GPs (FGP) Male GPs (MGP), Female Consultants (FCons) and Male Consultants (MCons) on OSI Occupational Stress Subscales

<u>Occupational Stress Subscale</u>	<u>α</u>	<u>Mean Scores (SD)</u>			
		<u>FGP</u>	<u>MGP</u>	<u>FCons</u>	<u>MCons</u>
1 Factors intrinsic to the job	58	29 01 (5 59)	31 11 (5 88)	28 89 (5 29)	28 89 (6 97)
2 Managerial role	74	34 72 (7 75)	36 11 (8 66)	34 17 (7 49)	33 40 (8 81)
3 Relationships with others	74	30 08 (6 98)	30 20 (7 31)	30 91 (6 75)	29 99 (7 93)
4 Career and achievement	74	17 50 (7 25)	17 53 (7 25)	18 96 (6 73)	17 76 (7 48)
5 Organisational structure and climate	79	30 05 (8 68)	30 91 (8 87)	35 52 (8 83)	33 22 (8 74)
6 Home / work interface	80	31 03 (8 99)	30 81 (8 75)	28 51 (8 47)	28 75 (9 51)

Table 6.4(b) : Multivariate Analysis of Variance of OSI Occupational Stress Subscales with Sex and Speciality (GP, Consultant) as Main Effects, with Age as a Covariate

<u>Source</u>	<u>Multivariate F</u>			
	<u>Wilks' Lambda</u>	<u>df</u>	<u>F</u>	<u>p</u>
Covariate	0.90600	6,881	15.23	0.000
Sex	0.96828	6,881	4.81	0.000
Speciality	0.84300	6,881	27.35	0.000
Interaction	0.98452	6,881	2.31	0.032

<u>Univariate F</u> (df 1,886)	<u>Univariate F</u>	<u>p</u>
<u>1. Age (Covariate)</u>		
Subscale 1	33.57	0.000
2	32.81	0.000
3	56.36	0.000
4	56.63	0.000
5	37.75	0.000
6	67.16	0.000
<u>2. Sex (Main effect)</u>		
Subscale 1	17.25	0.000
2	4.02	0.045
3	0.93	0.336
4	0.26	0.611
5	0.01	0.992
6	4.80	0.029
<u>3. Speciality (Main effect)</u>		
Subscale 1	1.48	0.224
2	1.74	0.187
3	7.86	0.005
4	12.49	0.000
5	61.87	0.000
6	2.34	0.126
<u>4. Sex by Speciality (Interaction)</u>		
Subscale 1	5.37	0.021
2	2.68	0.102
3	1.17	0.280
4	1.54	0.216
5	6.67	0.010
6	0.14	0.707

Note : Subscales 1-6 as listed in Table 6.4(a)

Multivariate Analysis Job Satisfaction

Mean scores for female and male GPs and consultants, together with multivariate analysis of variance of the Job Satisfaction subscales are shown in Tables 6 5(a) and 6 5(b) Male GPs recorded lowest job satisfaction scores on three subscales and female consultants recorded lowest scores on two subscales

Table 6 5(a) Mean Scores for Female GPs, (FGP) Male GPs (MGP), Female Consultants (FCons) and Male Consultants (MCons) on OSI Job Satisfaction Subscales

<u>Job Satisfaction Subscale</u>	<u>α</u>	<u>Mean Scores (SD)</u>			
		<u>FGP</u>	<u>MGP</u>	<u>FCons</u>	<u>MCons</u>
1 Achievement, value, growth	82	23 75 (5 21)	20 97 (5 24)	24 59 (5 22)	23 66 (5 49)
2 The job itself	68	16 59 (3 13)	15 08 (3 41)	17 08 (3 12)	16 55 (3 63)
3 Organisational design and structure	75	18 45 (4 08)	17 39 (4 17)	15 98 (4 18)	16 69 (4 27)
4 Organisational process	62	14 57 (3 22)	13 47 (3 33)	14 71 (3 53)	15 17 (3 52)
5 Personal relationships	62	12 26 (2 61)	11 82 (2 64)	11 41(2 83)	11 48 (2 76)
Total Job Satisfaction Score	92	84 90(15 76)	78 59(15 74)	83 27(16 41)	83 17(17 05)

Multivariate analysis revealed that job satisfaction was significantly related to the covariate age, and independent variables sex, speciality and their interaction. Subsequent univariate analysis showed that the covariate age was significantly related to scores on three subscales, 'the job itself', 'organisational design and structure' and 'personal relationships'. Regression analysis revealed that age was positively correlated with each of these subscales, indicating that older doctors experienced greater job satisfaction. The main effect of sex significantly affected subscale scores on two subscales, 'achievement, value and growth' and 'the job itself', where females revealed greater job satisfaction. Scores on all five satisfaction subscales were affected by the main effect of speciality. Consultants reported greater satisfaction in terms of 'achievement, value and growth', 'the job itself' and 'organisational process'. GPs reported greater satisfaction in terms of 'organisational design and structure' and 'personal relationships'. All subscales apart from 'personal relationships' revealed a significant sex by speciality

interaction effect. Male GPs reported least satisfaction in terms of 'the job itself', 'achievement, value, growth' and the 'organisational process' subscales. Female consultants reported least satisfaction in terms of 'organisational design and structure'.

Table 6.5 (b) : Multivariate Analysis of Variance of OSI Job Satisfaction Subscales with Sex and Speciality (GP, Consultant) as Main Effects, With Age as a Covariate

Source	Multivariate F			
	Wilks' Lambda	df	F	p
Covariate	0.98644	5,895	5.83	0.000
Sex	0.93435	5,895	12.58	0.000
Speciality	0.81631	5,895	40.28	0.000
Interaction	0.97966	5,895	3.72	0.002

<u>Univariate F</u> (df 1,889)		<u>Univariate F</u>	<u>p</u>
<u>1. Age (Covariate)</u>			
Subscale 1		0.0003	0.986
2		5.19	0.023
3		16.57	0.000
4		1.52	0.218
5		8.29	0.004
<u>2. Sex (Main effect)</u>			
Subscale 1		30.64	0.000
2		38.74	0.000
3		2.76	0.097
4		2.96	0.086
5		1.51	0.219
<u>3. Speciality (Main effect)</u>			
Subscale 1		22.58	0.000
2		7.04	0.008
3		44.19	0.000
4		11.43	0.001
5		15.23	0.000
<u>4. Sex by Speciality (Interaction)</u>			
Subscale 1		8.40	0.004
2		10.27	0.001
3		10.63	0.001
4		12.20	0.001
5		1.77	0.184

Note : Subscales 1-5 as listed in Table 6.5(a)

Relationship Between Occupational Stress and Job Satisfaction

Correlation and regression analyses were carried out to determine the zero order relationship between occupational stress subscales and job satisfaction and the utility of the OSI occupational stress subscales in predicting job dissatisfaction, as shown in Table 6.6. Although all stress subscales showed a significant negative correlation with job satisfaction, the combined subscales predicted only 14% of the variance in job dissatisfaction for the total sample in this study in regression analysis. The subscale 'organisational structure and climate' was the strongest single predictor of job dissatisfaction in this analysis. Separate regression analyses for male and female doctors were also carried out using the same dependent and independent variables. Since the results were very similar for males and females, they are not reported here.

Table 6.6 Predicting Job Satisfaction from Occupational Stress Subscales

<u>Subscale</u>	<u>r</u>	<u>Beta</u>
1 Factors intrinsic to the job	- .30**	- .15**
2 Managerial role	- .27**	.04
3 Relationships with others	- .29**	-.01
4 Career and achievement	- .31**	-.12**
5 Organisational structure and climate	- .35**	-.21***
6 Home / work interface	- .22**	-.02
Multiple Regression Analysis	R = .38, Adjusted R ² = .14, F = 25.54, df = 6,908, p < .0001	
(Constant = 108.94)		
* p < .05, ** p < .01, *** p < .001		

Sources of Occupational Stress Specific to Medicine

Sources of occupational stress listed by GPs are described in Table 6.7. Specific items where a statistically significant difference between male and females was observed are highlighted. Six of the seven most frequently mentioned sources of occupational stress for GPs reveal a statistically significant difference between males and females. Males

were significantly more likely to report relationships with patients ($p < 0.001$), and aspects of their occupational role, i.e. volume of work ($p < 0.01$), paperwork ($p < 0.05$) and dealing with NHS change ($p < 0.001$) as being a source of stress than were female GPs. Female GPs were significantly more likely to report time pressures ($p < 0.05$), relationships with peers ($p < 0.05$), home/family demands ($p < 0.001$) and dealing with death and severe illness ($p < 0.05$) as sources of stress than were male GPs.

Table 6.7 : Sources of Occupational Stress for Male and Female GPs

Source of Stress	Females n (%)	Males n (%)	χ^2	P
1. Relationships with patients, patients demands	103 (36.4)	136 (51.5)	12.7	0.001
2. On call	108 (38.2)	120 (45.4)	3.0	n.s.
3. Time pressure	114 (40.3)	84 (31.8)	4.2	0.05
4. Volume of work, long hours	73 (25.8)	96 (36.4)	7.1	0.01
5. Amount of paperwork, administration	61 (21.6)	82 (31.1)	6.4	0.05
6. NHS change, govt. intervention	43 (15.2)	89 (33.7)	25.6	0.001
7. Relationships with peers	45 (15.9)	23 (8.7)	6.5	0.05
8. Work environment, facilities	22 (7.8)	26 (9.8)	0.1	n.s.
9. Interruptions, phone calls (at work)	25 (8.8)	22 (8.3)	0.1	n.s.
10. Not enough time for self, leisure	25 (8.8)	22 (8.3)	0.1	n.s.
11. Lack resources	17 (6.0)	11 (4.2)	1.0	n.s.
12. Fear of litigation, mistakes	14 (4.9)	23 (8.7)	3.1	n.s.
13. Relationships with staff	22 (7.8)	13 (4.9)	1.9	n.s.
14. Management, bureaucracy	17 (6.0)	18 (6.8)	0.2	n.s.
15. The job itself	19 (6.7)	15 (5.7)	0.3	n.s.
16. Deal with emergencies	17 (6.0)	11 (4.2)	1.0	n.s.
17. Responsibility, maintaining standards	13 (4.6)	10 (3.8)	0.3	n.s.
18. Conflict between clinical, managerial role	15 (5.3)	12 (4.5)	0.2	n.s.
19. Home, family demands	23 (8.1)	2 (0.8)	17.0	0.001
20. Dealing with death, severe illness	16 (5.7)	6 (2.3)	4.0	0.05

Differences between male and female consultants in terms of their most frequently mentioned sources of occupational stress are shown in Table 6.8. Male consultants were significantly more likely to report responsibility for others ($p < 0.05$), patients' demands ($p < 0.01$) and work role conflict ($p < 0.5$) as sources of stress, whereas female consultants were significantly more likely to report lack of resources ($p < 0.05$), relationships with staff ($p < 0.05$) and poor work environment ($p < 0.001$) as being sources of stress.

Table 6.8 : Sources of Occupational Stress for Male and Female Consultants

Source of Stress	Females n (%)	Males n (%)	χ^2	p<
1. Volume of work	81 (36.0)	79 (36.7)	0.02	ns
2. Lack of resources	66 (29.5)	42 (19.5)	5.83	0.05
3. Health Board management, bureaucracy	52 (23.2)	54 (25.1)	0.21	ns
4. Time Pressure	47 (21.0)	54 (25.1)	1.05	ns
5. NHS Change	40 (17.9)	43 (20.0)	0.32	ns
6. Relationships with colleagues	47 (21.0)	35 (16.3)	1.59	ns
7. Responsibility for others, standards	25 (11.2)	40 (18.6)	4.81	0.05
8. Paperwork, administration	29 (12.9)	33 (15.3)	0.52	ns
9. The job itself	30 (13.3)	26 (12.1)	0.16	ns
10. Patients, relatives demands	14 (6.2)	34 (15.8)	10.3	0.01
11. Relationships with staff	31 (13.8)	16 (7.4)	4.69	0.05
12. Dealing with death, severe illness	19 (8.5)	20 (9.3)	0.09	ns
13. Lack control, autonomy	20 (8.9)	15 (6.9)	0.57	ns
14. Poor working environment	27 (12.0)	7 (3.3)	11.88	0.001
15. Fear of mistakes, litigation	14 (6.3)	17 (7.9)	0.46	ns
16. Teaching, training others	12 (5.3)	17 (7.9)	1.15	ns
17. Conflict in work roles	8 (3.6)	20 (9.3)	6.03	0.05
18. Being on call	19 (8.5)	9 (4.2)	3.39	ns
19. Committees, politics	13 (5.8)	14 (6.5)	0.09	ns
20. Dealing with emergencies	16 (7.1)	10 (4.7)	1.22	ns

Sources of Job Satisfaction Specific to Medicine

As for occupational stress, reported sources of job satisfaction for male and female doctors were compared. Table 6.9 shows that female GPs were significantly more likely than male GPs to report relationships with patients ($p < 0.01$), and knowing people socially ($p < 0.05$) to be sources of job satisfaction, whereas male GPs were significantly more likely to report problem solving ($p < 0.05$), teaching ($p < 0.05$), providing a good service ($p < 0.001$) and feedback from patients ($p < 0.05$) to be sources of job satisfaction.

Table 6.9 : Sources of Job Satisfaction for Male and Female GPs

Source of Job Satisfaction	Females n (%)	Males n (%)	χ^2	p
1. Relationships with patients	142 (50.2)	102 (38.6)	7.4	0.01
2. The job itself	62 (21.9)	44 (16.7)	2.4	n.s.
3. Relationships with peers	65 (23.0)	44 (16.7)	3.4	n.s.
4. Intellectual, skill use	43 (15.2)	45 (17.0)	0.4	n.s.
5. Solving patients problems	49 (17.3)	64 (24.2)	4.0	0.05
6. Teaching, training	13 (4.6)	24 (9.1)	4.4	0.05
7. Clinical success	29 (10.2)	31 (11.7)	0.31	n.s.
8. Independence, control, own boss	47 (16.6)	42 (15.9)	0.5	n.s.
9. Management, service development	18 (6.6)	28 (10.6)	3.2	n.s.
10. Relationships with staff	34 (12.0)	19 (7.2)	3.6	n.s.
11. Variety of skill use	38 (13.9)	36 (13.6)	0.1	n.s.
12. Working environment, facilities	26 (9.2)	21 (8.0)	0.3	n.s.
13. Research, writing	11 (3.9)	6 (2.2)	1.2	n.s.
14. Financial reward	34 (12.0)	34 (12.9)	0.1	n.s.
15. Quality of service, efficiency	16 (5.7)	37 (14.0)	10.9	0.001
16. Feedback, thanks from patients	22 (7.8)	36 (13.6)	5.0	0.05
17. Status, useful member of society	23 (8.1)	29 (11.0)	1.3	n.s.
18. Teamwork	22 (7.8)	13 (4.9)	1.9	n.s.
19. Knowing people socially	41 (14.5)	23 (8.7)	4.4	0.05
20. Work hours, flexibility	23 (8.1)	14 (5.3)	1.7	n.s.

For consultants there were fewer significant differences between males and females in terms of job satisfaction, as shown in Table 6 10. Female consultants were significantly more likely to report relationships with colleagues ($p < 0.001$) and flexible working hours ($p < 0.05$) to be sources of job satisfaction than were male consultants, whereas male consultants were more likely to report the working environment to be a source of job satisfaction ($p < 0.05$) than were females.

Table 6 10 Sources of Job Satisfaction for Male and Female Consultants

Source of Satisfaction	Females n (%)	Males n (%)	χ^2	p<
1 The job itself	60 (26.8)	67 (31.2)	1.02	ns
2 Teaching, training others	56 (25.0)	66 (30.7)	1.77	ns
3 Relationships with patients	67 (29.9)	54 (25.1)	1.26	ns
4 Using skills, intellect	59 (26.3)	55 (25.6)	0.02	ns
5 Relationships with colleagues	76 (33.9)	31 (14.4)	22.65	0.001
6 Research, writing	35 (15.6)	44 (20.5)	1.74	ns
7 Managing, developing service	43 (19.2)	33 (15.3)	0.5	ns
8 Independence, being own boss	40 (17.9)	33 (15.3)	1.13	ns
9 Clinical success	33 (14.7)	38 (17.7)	0.7	ns
10 Working as a team	29 (12.9)	35 (16.3)	0.18	ns
11 Providing good, efficient service	30 (13.4)	30 (14.0)	0.03	ns
12 Helping others, solving problems	27 (12.0)	27 (12.6)	0.09	ns
13 Variety	23 (10.3)	29 (13.5)	1.08	ns
14 Relationships with staff	16 (7.1)	23 (10.7)	1.71	ns
15 Status, useful member of society	21 (9.4)	18 (8.4)	0.14	ns
16 Working environment, facilities	11 (4.9)	23 (10.7)	5.14	0.05
17 Financial reward	22 (9.8)	11 (5.1)	3.49	ns
18 Feedback, thanks from patients	10 (4.5)	6 (2.8)	1.75	ns
19 Flexible working hours	15 (6.7)	5 (2.3)	4.81	0.05
20 Committees, politics	11 (4.9)	6 (2.8)	1.32	ns

6.7 Discussion

This study set out to examine and compare levels of occupational stress and job satisfaction in female and male GPs and consultants in Scotland, using both standardised and validated occupational stress and job satisfaction scales which had been widely used in health professionals and other occupations, and open ended measures to assess stressors more specific to medicine. The study was carried out at a time of controversial change within primary and secondary care sectors of the National Health Service, and much public and media interest in the effects of stress on medical professionals. The response rate for the study compares favourably with other questionnaire-based surveys of general practitioners (Cooper et al. 1989; Sutherland and Cooper 1993). A higher response rate was noted for female than for male subjects as reported in other studies of doctors (Cartwright 1978; Smith et al. 1985; Myerson 1993). In terms of GP practice characteristics, and the range of consultant specialities in the study, the responders were representative of GPs and consultants in Scotland. However, since the returned questionnaires were anonymous, no data on characteristics of non-responders is available. It is possible that the study may incorporate a response bias either towards individuals who are more stressed and therefore have an interest in reporting this, or towards those who are under less pressure, and have more time and energy to complete a questionnaire. A study by Myerson (1993) suggests that the latter explanation is more likely, which would indicate that the present study may under-estimate, rather than over-estimate levels of stress in this population. This is confirmed anecdotally by the return of some uncompleted questionnaires in the study with written comments such as : *'too busy to complete this'* (Male GP), or *'it's nine o'clock at night, and I'm going home to my wife!* (Male consultant)'

It is difficult to make comparisons across heterogeneous occupational groups with high levels of specialism such as medicine. There may be large variation even within a particular medical speciality in the actual content of the day to day job, and gender-role differences may add to this variation. The use of a medically non-specific measure such as the OSI, enables valid comparisons to be drawn in areas which are common to medicine and other types of professional and managerial occupation. However, as

previously noted, the use of the OSI as a measure of occupational stress may be open to criticism. Subscale internal reliability coefficients in the present study, although higher than those quoted in the OSI manual (see Chapter 5) are still less than ideal (e.g. 'factors intrinsic to the job'; split half reliability = 0.36 in OSI manual; Cronbach's α = 0.58 in the present study). The criterion validity of the Occupational Stress scales in terms of prediction of job dissatisfaction as an outcome of stress may also be called into question by these results, as the scales were found to jointly predict only 14% of variance in job satisfaction scores for this sample. However, it should be noted that other studies using occupational stressors in regression analyses have also found it difficult to account for a large proportion of the variance in job dissatisfaction (Cooper et al. 1989; Richardsen and Burke 1991; Sutherland and Cooper 1993). The complex multifaceted nature of the relationship between stress outcomes, and 'stressors', and consequent difficulty in determining causality is evident in this research as in other such studies.

Examination of the different areas of stress and satisfaction described in the subscales revealed significant differences between males and females. Females may bring different skills and resources to their job, compared with males, and find different aspects of their work stressful or satisfying. It has been suggested that female doctors have better patient interaction skills and find this aspect of work more rewarding and less stressful (Branthwaite and Ross 1988), whereas males may have greater confidence in technical and business aspects of medical practice (Simpson and Grant 1991). Alternatively, females' greater domestic commitment might be expected to intensify job stressors.

The inclusion of open-ended questions regarding sources of occupational stress and job satisfaction enabled a fuller picture to be developed of stressors and satisfactions specific to medicine, and especially items outwith the range of the OSI scales. Although some reported areas of stress were similar to those identified in the OSI subscales, others were strikingly different. For GPs, for example, relationships with patients were found to be the most important source of both occupational stress and job satisfaction. For consultants the overall volume of work, and lack of resources were important stressors,

and the main source of satisfaction was 'the job itself', i.e. the particular type of clinical work. For both GPs and consultants, NHS change was a major source of stress

Several significant differences between males' and females' reported sources of stress and satisfaction also emerged from these open-ended responses, suggesting that males and females may respond differently to the demands of their role in medicine

The present study found significant differences in sources and levels of occupational stress and job satisfaction between the sexes in both primary care and secondary care sectors of medicine

In line with other professional women, female GPs have previously been shown to have greater job satisfaction than male colleagues (Cooper et al. 1989) and the current study supported this finding. However, whilst previous studies had reported few significant differences in levels of job stress between male and female doctors (Cooper et al. 1989, Simpson and Grant 1991), in contrast, the present study found that male GPs reported more stress and less job satisfaction than female GPs, and female and male consultants. In particular male GPs reported feeling less valued, and found their role at work, and intrinsic aspects of their day to day job, such as dealing with patients, administration, or overall workload more stressful and a greater source of dissatisfaction than other groups. The 'home/work interface' was a greater source of stress for GPs overall than consultants, perhaps reflecting dissatisfaction with the intrusiveness of time 'on call' into private life, but contrary to expectations this area was not significantly more stressful for females than males, and in contrast to other studies (Cooper et al. 1989, Sutherland and Cooper 1993) this aspect of occupational stress was not a significant predictor of job dissatisfaction for males or females in the present study (Swanson et al. 1996)

In both general practice and consultant specialties, male doctors worked longer hours and had a heavier on-call commitment than their female colleagues. Many female doctors work part-time, and may therefore be involved less in the management of their practice or department, having more 'practitioner-centred' work roles and less on-call commitment. This heavier workload for males may be a factor in the greater stress and job dissatisfaction levels recorded by male GPs, although in this study, male consultants

who had the heaviest work commitment in terms of hours, were the least stressed group overall.

Female consultants found their work to be more stressful than did male consultants. Relationships with colleagues at work were a source both of stress and job dissatisfaction for female consultants, as was personal career achievement, suggesting that women may still experience difficulties with career advancement in these areas. The numerical imbalance of representation of females in some consultant specialities has been well documented (Allen 1988, Dillner 1991, Elston 1991, 1993), and the contribution of such minority status to occupational stress is addressed in further detail in Chapter 8.

A recently published study (Caplan 1994), comparing GPs, consultants and health service managers, found no significant differences between these groups in 'stress' levels as measured by the General Health Questionnaire (GHQ) and anxiety scales (the Hospital Anxiety and Depression Scales), but concluded that all three groups reported higher than expected levels of 'stress'. Since this study equated a measure of outcome or 'strain' with 'stress', results are perhaps not directly comparable with the present study which differentiated between 'stressors' and 'strains'. When GPs and consultants were compared in the present study, there was no clear overall difference between the two types of speciality in terms of levels of occupational stress, but differences did emerge when specific sources of stress were examined in the OSI subscales. GPs reported significantly more stress than consultants in terms of intrinsic job factors, managerial factors, and the home work interface, whereas consultants only reported significantly more stress than GPs in terms of organisational structural factors. However, when age was controlled in a more conservative multivariate analysis, this pattern of results changed, and medical speciality effects were only found to be significant in terms of relationships with others, career stress, and 'organisational' stress, with consultants recording greater stress in each of these areas. This confirms that age is an important covariate in differentiating between stressors for these medical speciality types.

Similarly, no significant difference between GPs and consultants was found in terms of overall job satisfaction, although when separate subscale scores were examined, consultants were shown to report greater job satisfaction than GPs on three out of five subscales, and this pattern of results was similar when age was controlled in multivariate analysis.

The effect of age was therefore found to be highly significant in determining both occupational stress and job satisfaction, with younger doctors reporting higher occupational stress and lower job satisfaction than those who were older. The opposite result might have been expected, as older consultants and general practitioners are more likely to fulfil a managerial role, to carry greater responsibility, and may be expected to find it more difficult to cope with radical change than their younger colleagues. It may be that younger subjects in the study were more ready to recognise and acknowledge sources of pressure in their job, or to admit to difficulties in coping with stress. Alternatively the explanation may lie in the relationship between work and the demands of family life, which are greater for younger doctors. The 'home work interface' was significantly more stressful for younger doctors, and they may be less prepared than older colleagues to sacrifice leisure or family time to the demands of the job. This is reflected in the current dissatisfaction with long working hours and 24 hour on-call commitment in the medical profession. The impact of work demands on family life for doctors is a source of stress which will be discussed in greater detail in Chapter 10.

Comparisons with normative scores based on a range of different occupations confirm that the medical professions are not unique in experiencing occupational stress and dissatisfaction at work. Normative data comparing males and females on these scales is not yet available so comparisons could not be made with respect to gender. The 'organisational' aspects of work, such as poor morale or staff shortages, were in fact less stressful for the GPs and consultants in the study than for those in the combined occupational sample. The impact of work on home life was also less stressful.

Aspects of the career 'rat race', including uncertainty and job insecurity familiar to managers in industry and other occupational groups, was a much less important source of pressure for doctors in the present study who may be seen to have achieved the top of their profession. However, increasing involvement of both GPs and consultants in economic, managerial and administrative pressures in the course of their day to day job may be expected to rapidly narrow this gap and create more 'career pressure' in the future.

This study describes broad areas of stress and satisfaction reported by male and female doctors. A more detailed examination of which aspects of medical work are found stressful or satisfying to which doctors would assist managers in more accurately targeting resources in future. Further examination of the characteristics of individual doctors reporting most and least stress and satisfaction, and the strategies used to cope with stressors, may also help to identify how doctors can best be helped to deal with the effects of occupational stress.

CHAPTER 7 :

**Occupational Stress,
Job Satisfaction and Coping
in Male and Female General Practitioners.**

7.1 Summary

Both general coping styles and specific coping strategies have been identified as intervening variables in the relationship between occupational stress and outcomes of stress such as job dissatisfaction, and many previous studies have identified gender differences in coping behaviour. Although GPs have been frequently studied in terms of occupational stress, few studies have examined coping behaviour in doctors, or made specific gender comparisons. The present study aimed to compare male and female GPs both in terms of characteristics of their practice and workload, and coping behaviour, and the relationship of coping behaviour to occupational stress and job satisfaction, in a sample of 264 male and 283 female GPs. Two aspects of coping were studied, firstly perceived coping efficacy, and secondly, specific strategies for coping with occupational stress, which were classified into broad coping styles. The role of coping as a mediator or moderator of the stressor-strain relationship was also investigated.

Results indicated that male GPs had a heavier workload than females, and although levels of occupational stress were similar, female GPs recorded greater job satisfaction than male GPs. There was a significant negative association between age, length of time in post, and occupational stress, suggesting younger GPs were experiencing greater stress. Perceived coping efficacy was positively associated with job satisfaction and negatively associated with occupational stress for both male and female GPs. There were significant gender differences in the reported use of some coping strategies. In particular, 'discussion with spouse and colleagues' was used more frequently by female GPs and 'physical activity' and 'hobbies' were used more frequently by male GPs. Use of social support as a coping style was reported more frequently by female GPs than males. Emotion focused and avoidance coping were used more frequently by male GPs. Neither perceived coping efficacy nor type of coping style moderated the effect of occupational stress upon job satisfaction, and when tested for a mediation effect, the relationship between coping efficacy as a mediator, and occupational stress and job satisfaction was not sufficiently large to be conclusive.

7.2 Introduction

Transactional Models of stress

The transactional model includes three main stages in the stress process, identification of stressors or environmental demands, evaluation of the role of environmental, demographic or psychological characteristics which affect the individual's experience or appraisal of stress, and resulting individual or structural outcomes or strains. The middle stage of this model includes intervening variables which can be characterised as 'mediators' or 'moderators' of the relationship between stressors and stress outcomes (see Chapter 1, pages 8-9). A moderator variable is one "*whose presence or level alters the direction or strength of the relationship between two other variables*" (Cox and Ferguson 1991). In the stress context, examples of moderating variables are those which might influence perception or appraisal of stressors and their effect on outcomes, such as coping behaviour, or locus of control. Moderating variables are generally considered in their role as joint predictors of variance in outcome or dependent variables, and are statistically represented by interaction effects in analysis of variance or regression analysis. A mediator variable is one which is "*responsible for transmission of an effect but does not alter the nature of that effect*" (Cox and Ferguson 1991). The central concept of mediation is that the effects of stimuli on behaviour are altered by processes internal to the individual. In this sense, mediator variables are often individual characteristics or personality variables such as 'hardiness', self-esteem or neuroticism, and are used to answer the question 'how' things happen whereas moderators address the question 'when' they happen. However, it should be noted that the same characteristics can be both mediators and moderators of effects depending on the relationship under investigation.

Coping

Coping with stress is seen as an important intervening variable in the stressor-strain relationship, and an individual's ability to cope with stressors has been shown to affect the eventual strain response. Implicit in the definition of coping is that it represents both active attempts to manage the environment, and passive or palliative attempts to dissipate its effects (see Chapter 1, page 17). Several approaches to the measurement

of coping behaviour have been adopted. The trait-based approach considers coping resources or behaviour as being individual characteristics, and seeks to identify coping efficacy, styles or dispositions (Pearlin and Schooler 1978, Byrne 1961, Wheaton 1983, Kobasa 1985) but has been criticised for assuming consistency of coping across different problems or events (Folkman et al. 1986). Although it has been established that individuals tend to use certain coping styles, this may be a result of situational demands rather than individual characteristics. Occupational settings for example, have been shown to be less amenable to change by the individual, requiring use of a different repertoire of coping in comparison with domestic settings (Pearlin and Schooler 1978, Shinn et al. 1984, Koch et al. 1991).

A second approach has aimed to identify the structure or dimensions of coping (Folkman et al. 1986, Billings and Moos 1981, Pearlin and Schooler 1978). Two main approaches to such measurement have been adopted. The first asks how the individual copes with particular events, the second asks how they cope with stress in general. Within these approaches many different typologies have been developed to describe coping strategies, generally arrived at via factor analysis of lists of potential coping responses. However difficulties have arisen in arriving at standard factor solutions, perhaps because of the volatile, time dependent, and situation-specific nature of many coping strategies. The division into emotion-focused and problem-focused coping strategies has been perhaps the most useful, although this broad division does not encapsulate all types of coping response. A third broad category of avoidance coping or 'suppression' has been added in some studies (Billings and Moos 1981, Parkes 1986, 1990, Wolfgang 1991).

One aspect of coping behaviour, seeking 'social support' has been singled out for particular attention as a potential moderator of the stress-illness response. Summarising results of 22 different studies testing for an interaction effect between stress and social support, Wheaton (1983) concluded that "*the evidence leaves the modifier argument, as it applies to social support, in some doubt*" (page 211). A main difficulty is that individuals use social support as a coping strategy for different reasons (e.g. to assist in problem solving, or to vent emotions) which are often not specified. As with other forms

of coping, the moderating effect of social support has been shown to be dependent on the type of outcomes measured (LaRocco et al. 1980).

Coping behaviour is considered both as a main effect and a moderator variable in research. Studies suggest that some types of coping show main effects while others show interactive, moderator or 'buffer' effects (Parasuraman and Cleek 1984). The effect observed also depends on type, frequency and severity of stressors and outcome variables considered (Wheaton 1983; Folkman et al. 1986). For example, a study of coping in 264 students by Parkes (1990), showed that 'direct' (active) coping moderated GHQ scores whereas a main effect was observed for 'suppression' (palliative) coping. Coping resources or dispositions can also be perceived as having a mediating effect, responsible for transmission of effects of a stressor. (Pearlin and Schooler 1978; Vingerhoets and Van Heck 1990).

Gender Differences in Coping

Several studies have identified gender differences in coping behaviour, both in terms of the type of strategies used, their effectiveness, and their frequency of use (Pearlin and Schooler 1978; Folkman and Lazarus 1980; Vitaliano et al 1985; Vingerhoets and Van Heck 1990; Blanchard-Fields et al. 1991; Ptacek et al. 1994). Females have generally been shown to use less problem-focused coping, more emotion-focused coping, and more avoidance coping than males (Billings and Moos 1981; Ptacek et al. 1994), although this is often context dependent, and related to socialisation in gender roles rather than seen as a dispositional property. Some specific avoidant strategies such as use of drugs and alcohol have also been shown to be used more frequently by males than females (Carver et al. 1989).

Although many studies have examined the relationship between stress and coping in nurses, (for example, Parkes 1986; Dewe 1987), few have considered use of coping strategies as an intervening variable in the study of occupational stress and job satisfaction in doctors, who face similar occupational stressors. One recent study in consultant doctors suggested that coping mediated the relationship between personality factors and job stress (Deary et al 1996). Although personally maladaptive coping behaviours such as drug or

alcohol abuse, or work related strategies such as increased prescribing have been examined, adaptive coping methods used both in work and home settings have been less frequently studied for general practitioners. Studies have also specifically examined the role of social support as a moderator of stress in physicians linking increased levels of support and quality of support with reduced stress, improved job satisfaction and mental well-being in both male and female doctors (Revicki and May 1985, Kumari and Sharma 1990, Myerson 1991b, Sutherland and Cooper 1993)

Aims

The present study sought to examine the relationship between gender, occupational stress, job satisfaction and two aspects of coping – overall coping efficacy, and type of coping strategies used, in a sample of general practitioners. Differences in occupational stress, coping efficacy and job satisfaction relative to practice characteristics and workload of male and female GPs were also discussed. The role of perceived coping both as a moderator and a mediator of the relationship between occupational stress and job satisfaction was examined.

7.3 Method and Subjects

For this study, subjects were 264 male and 283 female general practitioners who took part in the questionnaire survey as described in Chapter 5.

7.4 Measures

- (i) Demographic variables Age was recorded in nine five-year age bands from 26-30 to 65 and over. Length of time in post, total length of time in medicine, and number of qualifications were also recorded.
- (ii) Workload was measured in terms of hours worked per week, number of posts which were additional to main job (e.g. medical officer, clinical assistantships), and other commitments (e.g. research work, committee membership).
- (iii) Practice type (group vs single handed) and geographical area (rural, urban, suburban, city centre, mixed) were recorded. Practice characteristics in terms of size of partnership, number of patients overall and size of own Health Board list were noted.

- (iv) Coping efficacy was assessed by the global item 'How well do you feel you cope with stress in general?', scored on a scale where 1 = 'not at all well' and 5 = 'extremely well'
- (v) Coping Strategies were assessed by an open-ended question, wherein respondents were asked to nominate up to three strategies normally used to cope with stress both at work and at home, giving a maximum of six responses per individual. The responses were coded by the author into 20 dichotomous (coded as 'present' or 'absent' for each coping strategy mentioned) categories of coping, combining coping strategies at work and at home. A specific aim of this methodology was to avoid the broad fixed-response categorisation of coping strategies found in established questionnaires, and to evolve a list of strategies considered directly relevant to the population under study. The categories were therefore arrived at by post hoc examination of the individual responses given by a sample of 10% of male and female subjects. The remaining responses were subsequently allocated by the author into these categories.

Billings and Moos (1981) note that coping strategies are often uncorrelated, since the use of one coping strategy may negate the need for others. In the present study, individuals were asked to nominate up to six specific coping strategies used by themselves, therefore it was only possible to allocate a 'present or absent' value for each variable. Since this led to highly skewed data in the case of variables mentioned less frequently, individual coping strategies were not highly intercorrelated. As a potential scale of coping strategies this type of dichotomised data was therefore found to have very low reliability ($\alpha = 0.09$) and did not fulfil basic criteria stipulated for factor analysis (Ferguson and Cox 1993). An exploratory, broad based post-hoc structure was therefore used to group coping strategies, based on previous research¹. Four categories of coping were used: 'problem-focused', 'emotion-focused', 'avoidance', and 'social support'. Allocation of coping strategies to these groupings is illustrated in Table 7.1.

¹ Primarily the work of Billings and Moos (1980) ('Active-behavioural', 'active-cognitive', 'avoidance - in a community sample), Folkman and Lazarus (1980) ('problem-focused', 'emotion-focused' - in a community sample), Parkes (1986) ('general', 'direct' and 'suppression' - in a sample of nurses), Deary et al (1996) ('emotion-oriented', 'task-oriented' 'avoidance' - in a sample of consultant physicians) and Revicki and May (1985) ('social support' - in a sample of family physicians)

Table 7.1 : Classification of Coping Strategies for 283 Female GPs and 264 Male GPs.

<u>Classification of Coping Strategies :</u>
<p>1. Social Support : Discuss with colleagues, discuss with spouse, get support from friends</p>
<p>2. Problem Focused Coping : Think things through; organise work better, avoid interruptions; organise home life; work harder, take work home; put things in perspective.</p>
<p>3. Emotion-focused coping : Physical activity; hobbies, watch TV, read; stay calm, take a deep breath; take time alone to think; shout, moan, let off steam; take a break, time off, holidays; relaxation (techniques), rest, prayer; stay cheerful, sense of humour; keep work and home separate.</p>
<p>4. Avoidance : Cut things out, don't do so much; drink, eat, smoke, drugs ; switch off, don't get involved; do something different.</p>

(vi) Occupational stress was measured by the summed score from the six subscales of the OSI (Cooper et al. 1988)².

(vi) Job Satisfaction was measured by the 'How You Feel About Your Job' scale from the OSI (Cooper et al. 1988). Reliability and validity data for this scale are given in Chapter 5. This scale has been shown to have predictive validity in terms of stress-related sickness absence. The scale has five subscales, however the total score is used in this study as an indicator of overall job satisfaction.

² As previously noted (Chapter 5, page 119) the summed total score for the six OSI subscales is not normally used as a measure of overall 'occupational stress'. Following preliminary analysis of the individual OSI stress scales to check that use of the total score did not influence the final pattern of results, it appeared valid to use the total score in this study. This also has the advantage of reducing the overall number of statistical tests carried out, safeguarding against inflated type 1 error, reducing the number of variables for the final regression analysis, and simplifying the presentation of data.

7.5 Analysis

Comparisons were made between male and female general practitioners in terms of demographic, workload, and practice variables, using χ^2 analysis, or t-tests. Relationships between the above variables and occupational stress, job satisfaction and coping efficacy were investigated using zero order Pearson correlations.

Hierarchical regression analysis was carried out separately for male and female doctors to determine the ability of occupational stress, perceived coping efficacy, and coping strategies to predict job satisfaction. Prior to the analysis presented here, a similar analysis was carried out with demographic and practice variables entered as a first step into the equation as 'control' variables. Since only minor and non-significant increments to the regression equation were noted for both males and females, and to simplify presentation, the final regression analyses were carried out including only occupational stress and coping variables. Separate analyses were carried out for coping efficacy, and the four coping strategy groups, together with their interactions with occupational stress, as independent variables. Since coping was found to have a linear relationship with the independent and dependent variables, interactions to test for a moderator effect of coping were calculated using the product term (occupational stress multiplied by coping variables). These interactions were entered as the last step in each hierarchical regression analysis to ascertain any additional contribution made to variance in the dependent variable.

7.6 Results

Demographic and Practice Characteristics

Male GPs in the study were older ($p < 0.001$), had spent longer in medicine ($p < 0.001$), and had been in their present post for significantly longer than female GPs ($p < 0.001$), as shown in Table 7.2.

Male and female GPs held a similar number of academic and medical qualifications. Although there no significant differences between males and females in terms of the mean number of partners in the practice, or the overall size of the practice in terms of

number of patients on the practice list, Health Board patient list sizes were significantly larger for males than for females ($p < 0.001$).

Table 7.2 : Demographic and Practice Characteristics of Male and Female GPs

	<u>Females</u> <u>Mean (SD)</u>	<u>Males</u> <u>Mean (SD)</u>	<u>t</u>	<u>df</u>	<u>p</u>
<u>Demographic</u>					
Age group	3.3 (1.6)	4.0 (1.8)	4.79	540	0.001
Years in post	7.5 (5.9)	13.2 (8.6)	9.06	536	0.001
Total years in medicine	15.1 (7.0)	19.3 (8.7)	6.28	534	0.001
Number of qualifications	2.5 (1.2)	2.4 (1.1)	0.53	529	n.s.
<u>Workload</u>					
Hours worked	36.4 (12.4)	46.9 (10.0)	10.66	519	0.001
Additional posts	1.3 (0.5)	1.5 (0.5)	4.23	545	0.001
Other commitments	1.2 (1.3)	2.1 (1.9)	7.18	542	0.001
<u>Practice Characteristics</u>					
Number of partners	4.5 (2.0)	4.3 (1.9)	0.82	541	n.s.
Total practice list size	7425.5 (3705.1)	6952.5 (3567.5)	0.93	537	n.s.
Own Health Board list size	1249.3 (684.0)	1805.1 (588.0)	9.96	521	0.001
	<u>N(%)</u>	<u>N(%)</u>	<u>χ^2</u>	<u>df</u>	<u>p</u>
<u>Practice type (i)</u>					
Single handed	11 (4.1)	12 (4.6)	0.06	1	n.s.
Group	256 (97.1)	251 (95.4)			
<u>Practice type (ii)</u>					
Rural	60 (24.3)	70 (27.6)	11.59	4	0.05
Urban	114 (46.2)	95 (37.4)			
Suburban	36 (14.6)	42 (16.5)			
City centre	23 (9.3)	15 (5.9)			
Mixed	14 (5.7)	32 (12.6)			

Only a very small percentage of both male (4.6%) and female GPs (4.1%) were working in single-handed practices. More female GPs than males worked in urban or city centre practices, whereas more males than females worked in rural, suburban or 'mixed' practices. Male GPs worked significantly more hours per week ($p < 0.001$), held more additional posts ($p < 0.001$) and other work commitments ($p < 0.001$) than female GPs.

Relationship between Demographic Variables, Occupational Stress, and Job Satisfaction

For both male and female GPs, bivariate correlations, shown in Table 7.3, revealed that age group, length of time in present job and length of time in medicine overall were significantly negatively associated with occupational stress ($p < 0.01$) suggesting that younger, less experienced GPs were experiencing more occupational stress. There was no significant association between these variables and job satisfaction, apart from a small significant correlation between number of partners in the practice and job satisfaction, for female GPs ($p < 0.05$). Age group, length of time in medicine, hours worked, and list size were also positively correlated with perceived coping efficacy for females ($p < 0.01$), but not for male GPs.

Table 7.3 : Pearson Correlations Showing Relationship between Practice Variables, Occupational Stress and Job Satisfaction for Female and Male GPs

Variable	Occupational Stress		Job Satisfaction		Coping Efficacy	
	Females	Males	Females	Males	Females	Males
Age group	-.21**	-.32**	.07	.04	.20**	.09
Time in Medicine	-.22**	-.33**	.05	.07	.16**	.10
Time in Present post	-.18**	-.17**	.03	.04	.08	.04
Hours worked	-.01	-.13*	-.09	-.08	.18**	-.06
Size of HB List	-.13*	-.09	.11	.04	.20**	.07
No. of Partners	-.06	.07	.13*	-.03	-.14*	-.09

Key: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Practice Type

Analysis revealed no significant differences in levels of occupational stress, job satisfaction or coping efficacy for either male or female GPs who were in single handed or group practices. Similarly, for female GPs, analysis of variance revealed no significant difference in levels of stress, job satisfaction or coping efficacy between practices in different geographical areas (rural, urban etc.). However for male GPs those in practices described as either 'rural' ($n=70$, mean 82.5, SD10.9) or 'mixed'

($n=32$, mean 84.9, SD15.5) recorded significantly higher job satisfaction scores than those in 'urban' areas ($n=95$, mean = 73.5 (SD 15.4) ($F(4,249) = 6.0$, $p<0.001$; Scheffe = $p<0.01$). There were no significant differences in levels of occupational stress, or in perceived coping efficacy for male GPs in different types of geographical area.

Gender Differences in Job Satisfaction, Occupational Stress and Coping Efficacy

Female GPs in the study reported significantly more job satisfaction than male GPs, as seen in Table 7.4, although there were no significant differences between male and female GPs in terms of overall levels of occupational stress, or coping efficacy.

Table 7.4 : Comparison of Job Satisfaction, Occupational Stress and Coping Efficacy for Male and Female GPs.

	<i>Females</i>	<i>Males</i>	<i>t</i>	<i>df</i>	<i>p<</i>
	<i>Mean (SD)</i>	<i>Mean (SD)</i>			
Job Satisfaction	84.9 (15.8)	78.6 (15.7)	4.65	537	0.001
Occupational Stress	163.3 (38.2)	168.5 (37.8)	1.58	537	n.s.
Coping Efficacy	3.04 (0.6)	3.03 (0.8)	0.08	540	n.s.

The relationship between perceived coping efficacy and occupational stress and job satisfaction was also investigated graphically for male and female GPs. As shown in Figure 7.1, a clear positive linear relationship is observed between perceived coping efficacy and job satisfaction for both male and female GPs. Subjects who reported coping 'not at all well' or 'not very well' are seen to have lower job satisfaction scores than those who reported coping 'very well' or 'extremely well'. A similar linear relationship is observed between perceived coping and occupational stress as shown in Figure 7.2. Subjects who reported coping 'not at all well' or 'not very well' reported higher occupational stress scores than those who reported coping 'very well' or 'extremely well'.

Figure 7.1 : Job Satisfaction for Increased Coping Efficacy for Male and Female GPs

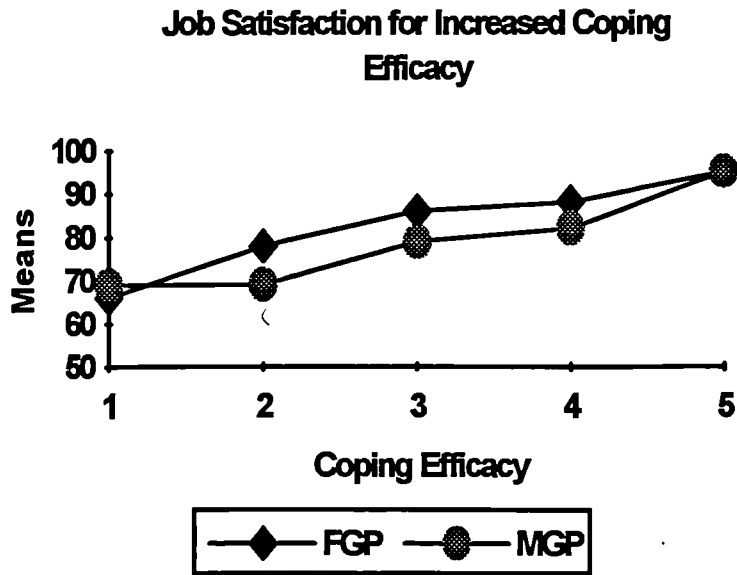


Figure 7.2 : Occupational Stress for Increased Coping Efficacy for Male and Female GPs

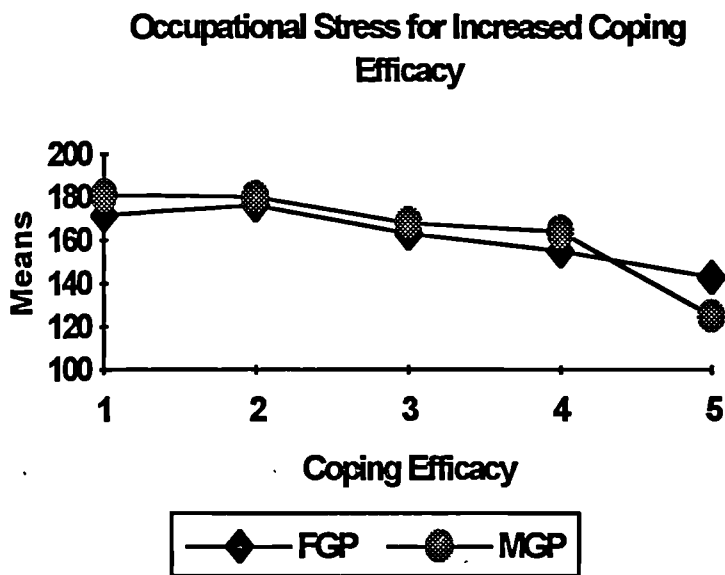


Table 7.5 : Coping Strategies Used by Male and Female GPs

<i>Strategy</i>	<i>Females</i>	<i>Males</i>
Discuss with colleagues, spouse	130 (45.9)	74 (28.0)***
Put things in perspective, think through	31 (11.0)	28 (10.6)
Physical activity	81 (28.6)	103 (39.0)**
Organise work better, avoid interruptions	85 (30.0)	66 (25.0)
Plan your time	49 (17.3)	36 (13.6)
Cut things out, don't do so much, rest, relax.	72 (25.4)	50 (18.9)
Delegate, get help	54 (19.1)	33 (12.5)*
Hobbies, watch TV, read	72 (25.4)	102 (38.6)***
Take a deep breath, stay calm	23 (8.1)	23 (8.7)
Take time alone to think	17 (6.0)	18 (6.8)
Eat, drink, smoke, drugs	29 (10.2)	40 (15.2)
Switch off, don't get involved	18 (6.4)	22 (8.3)
Support from friends	53 (18.7)	47 (17.8)
Shout, moan, let off steam	35 (12.4)	21 (8.0)
Take a break, time off, holiday	20 (7.1)	27 (10.2)
Relaxation (techniques), prayer	29 (10.2)	25 (9.5)
Work harder, take work home	39 (13.8)	34 (12.9)
Stay cheerful, sense of humour	12 (4.2)	21 (8.0)
Keep work and home separate	14 (4.9)	31 (11.7)**
Do something different, other task	0	15 (5.7)***

Key : * p<0.05, ** p<0.01, *** p<0.001

Coping Strategies

There was no significant difference between male and female GPs in the number of coping strategies reported (females mean = 3.6, SD1.8; males mean = 3.5, SD1.8, $t = 0.58$, n.s.). There were also few significant differences between males and females in terms of the frequency with which specific individual coping strategies were reported as shown in Table 7.5 (represented by shaded items). 'Discuss with colleague, spouse' was mentioned by a greater proportion of females (130, 46%) than males (74, 28%) ($\chi^2 = 18.7$, $df=1$, $p<0.001$); 'seek help, delegate' was also mentioned by a greater proportion of females (54, 19%) than males (33, 12%) ($\chi^2 = 4.4$, $df=1$, $p<0.05$). Use of 'physical activity' as a coping strategy was mentioned by a greater proportion of males (103, 39%) than females (81, 29%) ($\chi^2 = 6.6$, $df=1$, $p<0.01$); 'hobbies, reading, watching TV' was mentioned by significantly more males (102, 39%) than females (72, 25%); and

'keeping work and home separate' was mentioned by more males (31, 12%) than females (14, 5%) ($\chi^2= 18.7$, $df=1$, $p<0.01$).

When the above specific strategies were combined according to coping style (see Table 7.1), significant differences in the proportion of male and female GPs using different styles of coping were observed, as shown in Table 7.6. A significantly larger percentage of responses were categorised as indicative of using 'social support' as a coping style for females than for male GPs ($p<0.001$), and a significantly larger percentage of responses were categorised as indicative of using 'emotion-focused coping' ($p<0.05$) and 'avoidance' coping styles ($p<0.01$), for males in comparison with female GPs.

Table 7.6 : Comparison of Coping Styles Used by Male and Female GPs

<u>Coping Style</u>	<u>Female</u> <u>n(%)</u>	<u>Male</u> <u>n(%)</u>	χ^2	<i>df</i>	<i>p</i>
<i>Social Support</i>					
Yes	154 (54.4)	95 (36.0)	18.7	1	0.001
No	129 (45.6)	169 (64.0)			
<i>Problem Focused Coping</i>					
Yes	152 (53.7)	132 (50.0)	0.75	1	n.s.
No	131 (46.3)	132 (50.0)			
<i>Emotion Focused Coping</i>					
Yes	217 (76.7)	233 (84.5)	5.27	1	0.05
No	66 (23.3)	41 (15.5)			
<i>Avoidance Coping</i>					
Yes	56 (19.8)	80 (30.3)	8.08	1	0.01
No	227 (80.2)	184 (69.7)			

Predicting Job Satisfaction from Occupational Stress, Coping Efficacy, and Coping Strategies.

Both occupational stress (in a negative direction) and coping efficacy (in a positive direction) were significant predictors of job satisfaction in female and male GPs as

shown in Table 7.7, with coping efficacy predicting a slightly larger percentage of variance in job satisfaction scores for male GPs (7%) than for females (3%).

Table 7.7 : Occupational Stress, Coping Efficacy and Coping Strategies as Predictors of Job Satisfaction for Male and Female GPs.

<i>Step</i>	<i>Female GPs</i>			<i>Male GPs</i>		
	<i>B</i>	<i>β</i>	<i>R² Change</i>	<i>B</i>	<i>β</i>	<i>R² Change</i>
1. Occupational Stress (OS)	-.03	-.07	.10***	-.01	-.03	.11***
2. Coping Efficacy (CE)	8.85	.36	.03**	10.65	.52	.07***
3. OS x CE	-.03	-.28	.01	-.03	-.30	0.01
	Adj R ² = .12 F (3,267) = 13.5***			Adj R ² = .17 F (3,258) = 19.11***		
1. OS	-.13	-.33	.10***	-.11	-.27	.11***
2. Social Support (SS)	6.74	.21	.03**	21.18	.65	.01
3. OS x SS	-.01	-.05	.01	-.10	-.57	.01
	Adj R ² = .11, F(3,267) = 13.4***			Adj R ² = .12 F (3,258) = 12.77***		
1. OS	-.16	-.38	.10***	-.13	-.30	.11***
2. Problem-focused (PC)	-6.2	-.19	.01	6.85	.22	.01
3. OS x PC	.05	.30	.01	-.02	-.12	.01
	Adj R ² = .10, F (3, 267) = 11.7***			Adj R ² = .11 F (3,258) = 11.55***		
1. OS	-.15	-.36	.10***	-.06	-.15	.11***
2. Emotion-Focused (EC)	-2.37	-.06	.01	20.45	.47	.01
3. OS x EC	.02	.10	.01	-.10	-.45	.01
	Adj R ² = .10, F (3,267) = 10.4***			Adj R ² = .12 F (3,258) = 12.50***		
1. OS	-.11	-.27	.10***	-.11	-.26	.11***
2. Avoidance (A)	18.04	.46	.01	17.50	.51	.01
3. OS x A	-.10	-.45	.01	-.10	-.53	.01
	Adj R ² = .10, F(3,267) = 11.5***			Adj R ² = .11 F (3,258) = 11.44***		

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

Use of social support as a coping strategy was also a significant predictor of job satisfaction for female GPs, but not for male GPs. Problem-focused, emotion-focused and avoidance coping did not significantly predict variance in job satisfaction scores for either male or female GPs. The product (interaction) term for occupational stress and the coping variable in question was entered as the third step in each analysis to investigate the moderating effect of coping efficacy, social support, problem focused coping, emotion-focused coping and avoidance coping on job satisfaction. The addition of the interaction term did not contribute significantly to any of the regression equations, suggesting no significant moderating function for coping efficacy or coping styles in either male and female GPs.

Coping Efficacy as a Mediator of Occupational Stress

The possibility that perceived coping efficacy would function not as a moderating variable, but as a mediator between occupational stress and job satisfaction was considered. Following Baron and Kenny's (1986) test of mediation, coping was regressed firstly onto occupational stress, to establish a significant relationship. Secondly, job satisfaction was regressed onto occupational stress, and thirdly job satisfaction was regressed onto both occupational stress and coping. For mediation to hold, the effect of occupational stress on job satisfaction must be less in the third equation than in the second. Results are shown in Table 7.8.

Table 7.8 : Coping as a Mediator between Occupational Stress and Job Satisfaction for Female and Male GPs

	<u>Unstandardised Regression Coefficient (B)</u>	
	<u>Female GPs</u>	<u>Male GPs</u>
<u>Regression 1: DV=OS</u> IV Coping	-10.02**	-11.12***
<u>Regression 2: DV = JS</u> IV= OS	-.13***	-.14***
<u>Regression 3: DV= JS</u> IV = OS	-.12***	-.11***
IV = Coping	3.94**	5.60***

Key : DV = Dependent variable; IV = Independent variable; OS = Occupational stress; JS = Job satisfaction.

** p<0.01, *** p<0.001.

For both female and male GPs coping efficacy was significantly related to occupational stress in the first equation. Although for both female and male GPs the value of the unstandardised regression coefficient was reduced between the second equation and the third, as shown in Table 7.8, this was only by a very small amount (0.01 for females, 0.03 for males) making it difficult to unequivocally conclude the existence of a mediation effect for perceived coping efficacy.

7.7 Discussion

The issue of occupational stress is an important one in terms of its impact on medical practitioners, since outcomes not only affect the individual GP but also his or her family, and ultimately, may impact on patient care. This study showed that occupational stress was a significant predictor of job satisfaction for male and female GPs. Job dissatisfaction has been shown in other studies to be a reliable measure of outcome of stress which is related to sickness absence from work, and psychiatric morbidity in health professionals (Rees and Cooper 1991; Ramirez et al. 1996).

Workload variables (hours worked and list size) were not found to be significantly associated with job satisfaction for either male or female GPs in this study. Other factors of workload which were not considered here, such as organisation of appointments within the practice, the doctor's consultation style, and characteristics of the patient population may be more significant predictors of job satisfaction (Rankin et al. 1987; Howie et al. 1992b; Groenewegen and Hutten 1991).

An earlier study of stress in general practitioners (Rout and Rout 1993) found several differences in sources of stress between GPs in rural and urban areas. Although the present study did not closely investigate reported sources of stress for these groups, no significant differences were found in occupational stress levels between GPs in different types of geographical area. However a not unexpected finding of the study was that male GPs in areas described as 'rural' or 'mixed' reported significantly higher job satisfaction scores than those in urban or city centre areas.

This significant difference was not found however, for female GPs³.

A worrying finding of this study, discussed previously in Chapter 6, is the fact that younger, less experienced male GPs recorded greater occupational stress. Similarly, the association between age and length of work experience, and coping efficacy was non-significant for males. Coping behaviour has been highlighted as one of the most important intervening variables in attempts to explain why some individuals suffer adverse effects of occupational stress and others do not. Previous research into coping has highlighted the importance of distinguishing between what people are and what people do in terms of coping behaviour. Wheaton (1983) has argued that coping resources and coping strategies each have a separate predictive role, and this approach was adopted in the current study.

Although perceived coping efficacy was shown to be significantly related to both occupational stress and job satisfaction for male and female GPs, no significant moderating effect, and only a small mediating effect were observed. This leads to the somewhat tentative conclusion that 'coping efficacy' as measured in this study is a stable individual trait or characteristic rather than a situational response to particular occupational stressors. Although coping efficacy revealed a significant main effect on job satisfaction in this study, only a small amount of variance in job satisfaction in both male and female doctors was accounted for by coping efficacy. The reliability of this single-item measure might be questioned, although it has been noted in other areas (e.g. measurement of anxiety), that global measures may be as sensitive, or more sensitive measures of outcome than use of total scores of rating scales (Lipman et al. 1965; Kellner and Uhlenhuth 1991). Such measures also have the advantage of brevity and improved potential compliance, particularly in a sample of doctors such as this one, for

³ One aspect of stress, making out of hours visits was investigated for GPs in different geographical areas. For male GPs in rural areas, out of hours visits were significantly less stressful than for male GPs in urban or city centre areas ($t=2.04$, $df=172$, $p<0.05$), whereas there was no difference in the stressfulness of out of hours visits comparing female GPs in rural versus urban and city centre areas ($t=0.60$, $df=155$, n.s.). Also, longer working hours were associated with lower occupational stress for rural male GPs ($r=-.31$, $p<0.01$), but not for male GPs in other geographical area, or for female GPs in any type of area.

whom completing long questionnaires might be seen as an additional administrative source of stress.

Other researchers have examined the relationship between coping and personality or individual variables, for example optimism, neuroticism and extroversion, positive and negative affectivity, or self esteem (Parkes 1986, 1990; Deary et al. 1996), and further research considering the role of such variables in determining coping efficacy in the present sample would be of interest in identification of potential areas for intervention, for staff selection or to improve coping efficacy in general practitioners.

Only one group of coping strategies, use of social support, made a significant contribution to variance in job satisfaction, and only for females and not for male GPs in the study. No significant moderating effect of any type of coping strategy on job satisfaction was observed. This finding is similar to that noted by Shinn et al. (1984) in a sample of 141 (58% female) human service professionals. Shinn et al. found that neither individual coping strategies nor 'higher level' strategies (group and agency coping) contributed significantly to variance in psychological symptoms, somatic symptoms, job alienation or job satisfaction, either as main effects or moderating (interaction) effects, and concluded that job stressors may not be amenable to individual coping, but group or societal efforts are needed to significantly reduce strain outcomes.

The sensitivity and reliability of the measure of coping strategies used in the present study could also be questioned, and one could argue for use of a previously validated and standardised measure of coping. However, the open-ended methodology used here has the advantage of arriving at a list of strategies directly relevant to the coping tasks of the occupational group in question, and could be used to provide the basis for future standardisation and validation of such a measure with particular relevance for GPs. It has a further important advantage of being less time-consuming to complete.

It is interesting to note the gender differences in coping strategies used by male and female GPs. As with other studies, female GPs recorded greater use of social support as

a coping strategy than males (Shinn et al. 1984; Greenglass et al. 1990; Vingerhoets and Van Heck 1990). Whereas some previous studies have suggested that males use more problem-focused coping, the present study found no significant difference between males and females in the amount of problem-focused coping. This is perhaps because the question asked in this study was specifically directed at use of coping in the same work-related and home-related settings for both males and females, and use of coping strategies is directly related to the type of setting. Contrary to many other studies, (Billings and Moos 1981; Stone and Neale 1984; Vingerhoets and Van Heck 1990), an unexpected finding in this study was male GPs' recorded greater use of emotion-focused coping than females. This may be in part a reflection of the decision by the author to include two particular coping strategies (use of sport or physical activity and hobbies) which were reported by proportionally more males than females, in the 'emotion-focused' category of coping styles. It could perhaps be argued that these activities may alternatively be classified as 'avoidance' coping or even as a means of obtaining 'social support'. This highlights a general problem of using a questionnaire survey methodology, whereby it is not possible to capture nuances in meaning of individual responses to general types of question. Clarification of issues such as this is not possible without using interview-based techniques.

Other research has noted differences between males and females in 'avoidance' coping, with a main area of difference being the extent of maladaptive coping behaviour (e.g. smoking, alcohol use). A qualitative study of GPs' strategies for dealing with problems in general practice identified 'escapist responses' as common forms of coping behaviour, noting doubts as to their efficacy (Myerson 1992). Similar proportions of males (15%) and female GPs (10%) reported use of 'eating', 'drinking', 'smoking or drugs' in the present study, although males reported greater use of avoidance coping overall than females. Whether or not 'avoidance' coping is adaptive or maladaptive depends on the nature and situation of the stressor and also on the individual's degree of control over the stressor. Parkes (1990) has pointed out that although avoidance coping is perceived as maladaptive, in a situation of low control over stressors this type of coping may successfully alleviate distress in the short term. Similar findings of the

effectiveness of avoidance or denial in coping with illness have been noted (Schoeneman et al. 1983).

In terms of intervention to improve coping skills, it is important not only to be able to identify what strategies are used, but also to identify the efficacy of these strategies to the individual concerned. Unfortunately in the present study, no information was recorded as to the perceived efficacy of individual coping strategies, and this important aspect of measurement of coping should be included in future research studies. If we assume a view of coping as rational and deliberate, it could be argued that strategies used most often are those which are judged most useful in providing relief from distress. However, it should be noted that frequency of use of coping strategy is not necessarily a guarantee of its success, or an indication of the level of strain experienced by the individual in question. In a critique of coping research, in which he recommends the study of coping under 'normal' conditions, as well as under conditions of stress, Newton (1989) notes that: *"the 'successful copier' may be one who accurately diagnoses when a particular coping approach will be effective and when it will not, yet we will learn little about the cognitive skills used to do this if we do not study effective or habitual coping as well as coping with demands perceived as stressful"* (page 449).

The use of physical exercise as a coping strategy was the most frequently mentioned item by male GPs in the present study. Although frequency of physical exercise has been shown to be related to physical fitness and cardiovascular health, the research evidence for exercise as a moderator of the relationship between occupational stress or job satisfaction, or between occupational stress and psychological well-being is inconclusive, since the same underlying personality traits may be responsible both for the tendency to exercise and perception of occupational stress and well-being (Jex 1991; Kirkcaldy et al. 1994). Males in general report higher levels of exercise than females, and it may be that exercise is a short-term palliative strategy for coping with minor hassles but not an effective long-term solution to more serious or acute stressors.

As in a previous study of occupational stress in GPs (Sutherland and Cooper 1993), seeking support or advice from spouse, friends or colleagues was mentioned more frequently as a coping strategy by female GPs than by males in the present study. Traditionally the role of the GP has been a fairly isolated and autonomous one. Changes in general practice in more recent years encouraging larger scale partnerships, collaboration and teamwork may encourage more formal and informal contact between colleagues which foster social support in working relationships. Other changes in terms of GPs' 24 hour commitment and amount of time spent on call may also have had repercussions in terms of improved opportunities for maintaining supportive relationships within the family and with friends. If changes in general practice enable male GPs in particular to devote more time and energy to maintaining close working relationships with their peers and colleagues, and to achieve a balance between time allocated to work and family life, then this may improve their future resources for coping with the pressures of general practice.

CHAPTER 8 :

**Occupational Stress and Job Satisfaction
in Consultant Physicians in Different Specialities**

8.1 Summary

The specialist role of the medical consultant may be characterised as simultaneously stressful and satisfying. However, as a result of structural change in the NHS, the traditional role of the consultant has been subject to changes leading to reduced morale and increased occupational stress. The present study sought to investigate workload, occupational stress and job satisfaction in medical consultants, comparing doctors in different types of medical speciality, and considering differences in gender distribution within specialities as an intervening variable in the experience of stress and job satisfaction. Comparisons with OSI norms for occupational stress and job satisfaction were also carried out, and the impact of change within the NHS on the consultant's role for different types of speciality was assessed.

The sample for this study comprised 215 male and 224 female consultant physicians across eight different classifications of medical speciality. Half of the specialities were classified as being numerically 'male-dominated' and half as being 'less male-dominated' and females and males in these classifications were compared in terms of occupational stress and job satisfaction. The ability of marital and parental status, hours worked and time on call to predict job satisfaction in 'male-dominated' and 'less male-dominated' speciality types was also considered.

Comparisons between specialities indicated that workload, and sources and levels of occupational stress and job satisfaction varied between different types of speciality, with physicians having the heaviest workload and public health /community specialists having the highest stress and lowest job satisfaction scores overall. Higher levels of occupational stress were related to lowered job satisfaction for each speciality. Comparisons with norms revealed consultants to have less stress and greater job satisfaction overall than individuals in other occupational groups. Females in 'male-dominated' specialities were found to have significantly less stress and greater job satisfaction than females in 'less male-dominated' specialities, and it was suggested that this may be related to workload and domestic characteristics of females in the latter group. Increased 'bureaucracy' and financial accountability were the most frequently reported consequences of recent NHS change for consultants in this study.

8.2 Introduction

The majority of studies of occupational stress in doctors have been carried out in general practice, perhaps because, having reached the top of their career ladder, the consultant's job, although demanding, is intrinsically highly rewarding, skilled, autonomous, and well remunerated, and therefore less stressful. The rigorous training, career structure, and demanding selection process for consultant posts may also be thought to lead to self-selection of those individuals with most stress-resilient characteristics or resources into such posts.

Although some characteristics of medical work are common to all specialities, the role of 'consultant' is by no means a homogeneous one. Characteristics of different types of speciality may vary greatly, for example, by different degrees of patient contact, amount of contact with chronic or severe illness, and levels of both quantitative workload in terms of actual hours worked, and qualitative workload in terms of the level of demand and intensity of the work done. Time spent on call may also be an important source of stress, because of the intrusion into personal or family life, and the additional fatigue due to loss of sleep (Spurgeon and Harrington 1989; Hallam 1994). It has been argued that two main characteristics of the consultant's role, autonomy and leadership, have been recently challenged by the development of health care purchasing bodies, and changes in the role of junior doctors in the UK (Bailey 1995). These characteristics may influence both levels of perceived occupational stressors, and job satisfaction.

Most previous studies of consultant doctors have been carried out in single specialities, or been relatively small scale (Ducker 1980; Lewy 1986; Robinson et al. 1986). One recent larger-scale study carried out in the UK (Caplan 1994), compared 81 hospital consultants with 322 general practitioners and 121 health service managers, using the General Health Questionnaire as an outcome measure of stress, and the Hospital Anxiety and Depression Scale as a measure of depression and anxiety. This study concluded that levels of depression were higher for both general practitioners and consultants than for managers, and over half of the consultants, general practitioners and managers scored above population norms on the GHQ, and above the accepted cut-off point for anxiety.

However, although the GHQ has been widely used in research as a measure of strain, it is essentially a measure of non-psychotic psychiatric morbidity, rather than a measure of occupational stress. As such the GHQ does not explain what proportion of the reported strain is stress related and does not examine or indicate the source or severity of stressors, let alone whether the stress is work related. This study also failed to consider possible sex differences or speciality differences in stress or stress outcomes.

Gender Differences

Gender is an important variable in the relationship between occupational stressors and the experience of strains. It has been found that particular areas of stress, e.g. role conflict, are experienced more frequently by females than males in the workforce (Sekaran 1983; Nelson et al. 1990). However, research is equivocal in attributing gender differences in occupational stress to males' and females' stereotyped sex roles or alternatively to the social structures which assign different roles to males and females within an occupational setting (Deaux 1984). Role conflict has been discussed most frequently in terms of the relationship between occupational and domestic roles for females, but other sources of conflict, such as having minority or 'outsider' status in male dominated work settings (Epstein 1970; Kanter 1977), and sexual harassment and prejudice due to gender stereotyping (Fitzgerald et al. 1994) may also be specific sources of occupational stress for females. A number of authors have addressed the specific problems faced by female doctors in achieving career progress in some medical specialities, (Henryk-Gutt and Silverstone 1976; Mawardi 1979; Allen 1988; Dillner 1993) and the problems of pressure due to conflict between the medical role and personal relationships or family life (Allen 1988; Elliot 1978).

It is well documented that females are more likely to work in certain medical specialities, including pathology, anaesthetics and psychiatry, community medicine and community health, and less likely to work in acute specialities than males (Quadagno 1976; Cartwright 1987; Allen 1988). Currently only approximately 3% of doctors in surgical specialities are female (Dillner 1993). For females, choice of career speciality may be more frequently governed by practical considerations, (for example, flexibility in terms of

working hours, or fitting in with spouse's career pattern), than for males. Some specialities offer more regular hours, less on call work, and possible part-time working which may make it easier for females to accommodate their domestic role. Prejudice against females who have obvious minority status in some specialities may also have governed career choice or career progress in the past (Ducker 1980; Allen 1988).

Perhaps because numbers of female consultants are relatively small (currently approximately 18% in the UK (HMSO 1994), gender differences are often not considered by researchers in studies of stress or job satisfaction in this occupational group. Certainly, job characteristics in terms of work hours and time spent on call have been shown to differ by gender for physicians in the USA (Heins et al. 1977; Grant et al. 1990), and also in samples of general practitioners in the UK (Cooke and Ronalds 1985a).

One large scale study of over 2,500 physicians which addressed the question of gender differences was carried out in Canada (Richardson and Burke 1991). This study found more similarities than differences in terms of occupational stress and job satisfaction for males and females, although females reported slightly more 'total stress' than males. Hours worked and time on call were identified as the most common sources of stress for both males and females, and males and females were found to have different 'work styles', although sex-role differences or role conflict were not identified as a particular source of stress for females, and no comparisons between different types of medical speciality were offered in this study.

Aims

The present study sought to compare sources of occupational stress and job satisfaction in consultants working in a range of medical specialities with different gender composition, considering workload and demographic differences between males and females. Combined sample norms were utilised to compare sources and levels of occupational stress and job satisfaction for consultants and individuals in other occupations. Firstly, it was hypothesised that some types of medical speciality may be

more stressful or satisfying than others. Secondly, and more specifically, it was anticipated that specialities in which males predominate to a greater extent, and females therefore have minority status, may be perceived as being more stressful, and less satisfying by female doctors than other types of speciality. Particular aspects of occupational stress, such as the structure of the organisation, career achievement, or role considerations, were expected to be rated as more stressful for female consultants in 'male dominated' than in 'less male-dominated' speciality types. Similarly, the interface between work and home may be more stressful for females working in 'male dominated' types of speciality than in those which are more likely to accommodate domestic demands (e.g. by offering opportunities for part-time working). No difference in sources or levels of stress or satisfaction is anticipated for male doctors in these two classifications of speciality. Workload levels may vary by type of speciality, and marital and parental status may also be important in determining the impact of occupational stress on job satisfaction for male and female consultants.

8.3 Method and Subjects

The 373 male and 355 female consultant physicians in the study sampling frame were all employed in the NHS in Scotland. A description of the sampling procedure for consultants is given in Chapter 5 (page 113).

8.4 Measures

- i.) Demographic Variables : Speciality type, sex (1= female, 2=male), marital status (single, separated, widowed, divorced (=1), married/cohabiting (=2), and parental status (non parent = 1, parent = 2) were recorded.
- ii.) Quantitative workload was assessed by self-report of hours worked per week. Time spent on call was recorded separately. For this analysis, time on call during the week was coded into four broad categories: none or only occasional; less than once a fortnight; between once a week and once a fortnight; and more than once a week.
- iii.) Occupational stress was recorded by the 'Sources of Pressure' Scale from the OSI (Cooper et al. 1988). A description of this scale and subscales, its construction,

and psychometric data is given in Chapter 5 (pages 121-123). Scale reliabilities for the current sample were calculated using Cronbach's α and shown to be adequate :

(a) Factors intrinsic to the job (9 items) ($\alpha = .67$); (b) The managerial role (11 items) ($\alpha = .75$); (c) Relationships with others (10 items) ($\alpha = .73$); (d) Career and achievement (9 items) ($\alpha = .75$); (e) Organisational structure and climate (11 items) ($\alpha = .81$); (f) Home/work interface (11 items) ($\alpha = .81$). The summed subscale score was also calculated ($\alpha = .94$)¹.

iv.) Job Satisfaction was measured by the 'How You Feel About Your Job' scale taken from the OSI, also described in Chapter 5 (pages 123-124). Again, scale reliabilities were calculated using Cronbach's α : (a) Achievement, value, growth (6 items) ($\alpha = .80$); (b) Satisfaction with the job itself (4 items) ($\alpha = .68$); (c) Satisfaction with organisational design and structure (5 items) ($\alpha = .76$); (d) Satisfaction with organisational process (4 items) ($\alpha = .69$); (e) Personal relationships at work (3 items) ($\alpha = .62$). The job satisfaction scale total ($\alpha = .92$) was also calculated.

The studies on which the OSI scale norms are based include a community study, studies of health authority workers and university staff, blue collar factory workers, managers in industry and general practitioners. A benefit of these scales was their applicability to a range of managerial occupations and focus on issues hypothesised to be potential sources of gender differences in occupational stress for consultants, for example, career stressors and the home work interface.

v.) Impact of NHS change for doctors in different consultant specialities was ascertained by the question: 'Have recent changes in the Health Service affected your day to day job?'. Those doctors who answered positively were asked to list, in an open-ended format, up to five ways in which changes had affected their job. These responses were rated by the author as being either 'positive' (i.e. supportive of change) or 'negative' (i.e. unsupportive of change) and subsequently categorised into nine broad categories, with responses allocated to these categories as 'reported' or 'not reported'.

¹ As noted previously Cooper et al (1988) do not use the summed subscale score as a measure of overall 'occupational stress'. No Combined Sample norms are therefore available for the summed subscale score in Table 8.3.

8.5 Analysis

In order to investigate differences between speciality types, respondents were first classified into 8 speciality groups, using the broad headings adopted by the ISD (ISD 1992b). A description of this allocation is given in Table 8.1. Differences between males and females in terms of demographic characteristics were investigated using chi square analysis and t-tests. Differences between males and females and between speciality groups in terms of workload and time on call were investigated using factorial ANOVA.

Table 8.1 : Speciality Groups and Allocation to Categories

Speciality Group	Allocations :
1 Physicians	Cardiology, Dermatology, Forensic Medicine, Gastroenterology, General Medicine, Geriatric Medicine, Infectious Diseases, Medical Paediatrics, Neonatology, Nephrology, Neurology, Oncology, Palliative Medicine, Rehabilitation Medicine, Rheumatology, Urology.
2 Surgeons	Accident and Emergency, General Surgery, Ophthalmology, Orthopaedic Surgery, Otolaryngology, Spinal Medicine, Thoracic Medicine.
3 Anaesthetists	Anaesthetics, Neuroanaesthesia.
4 Laboratory Doctors	Bacteriology, Biochemistry, Clinical Chemistry, Clinical Haematology, Cytopathology, Histopathology, Medical Microbiology, Pathology.
5 Public Health and Community Specialists	Child Health, Cytology, Epidemiology, General Management, Public Health Medicine.
6 Psychiatrists	Child Psychiatry, Forensic Psychiatry, Mental Handicap, Psychiatry, Psychiatry and Public Health, Psychogeriatrics, Psychotherapy.
7 Radiologists	Neuroradiology, Radiology.
8 Obstetrics /Gynaecology	Clinical Genetics, Family Planning, Obstetrics/ Gynaecology.

To investigate differences in aspects of occupational stress and job satisfaction, speciality groups were compared in terms of occupational stress and job satisfaction subscale scores, using one-way ANOVA, with post hoc Scheffe tests. Subscale scores for each speciality were subsequently compared with Combined Sample Norms using t-tests. Since large sample sizes increase the chance of finding statistically significant differences, a conservative significance level of $p < 0.01$ was adopted for t-tests throughout. The relationship between job satisfaction and occupational stress subscales was investigated using Pearson correlations.

On the basis of the number of males in each speciality group expressed as a percentage of the total number of males and females in the speciality group for Scotland as a whole, (see Table 8.2 below) the speciality groups were also sub-divided and classified as either 'male-dominated' (including the four speciality groups with the largest percentage of males) or 'less male-dominated' (including the four speciality groups with the smallest percentage of males). The 'male-dominated' grouping therefore included surgeons (98% male), obstetricians/gynaecologists (89% male), physicians (87% male), and anaesthetists (80% male). The 'less male-dominated' grouping included laboratory specialists (76% male), radiologists (74% male), public health/community specialists (68% male), and psychiatrists (68% male). Differences between 'male-dominated' and 'less male-dominated' groups in terms of demographic and other variables were investigated using chi square analysis or t-tests where appropriate.

Scores on occupational stress and job satisfaction subscales were also compared for males and females in 'male-dominated' and 'less male-dominated' specialities using t-tests. Due to a small amount of missing data, degrees of freedom vary slightly between subscales. Finally, separate hierarchical regression analyses were carried out to determine the relative utility of occupational stress subscales, demographic and workload variables in predicting job satisfaction for males and females in 'male-dominated' and 'less male-dominated' specialities.

8.6 Results

Details of the Sample

A total of 224 female consultants and 215 male consultants returned questionnaires, giving an overall response rate of 61%. There was a slightly higher response rate from females (63%) than from males (58%). Respondents came from fifty separate medical specialities. Allocation to speciality groups is described in Table 8.1 above.

Table 8.2 describes the numbers of females, males, and totals in each speciality group. To determine the representativeness of the sample, these figures were compared with figures for Scotland as a whole (ISD, 1992b). Comparison between the female groups shows that although there is some variation, percentages in the study groups are roughly equivalent to those for Scotland, varying by a maximum of 2.3%. The male groups were less representative with physicians being over-represented in the study by 11.3% and surgeons and anaesthetists being under-represented by 5.3% and 6.2% respectively.

Table 8.2 : Number (%) of Consultants in each Speciality Group for Current Study in Comparison with Scottish Statistics (ISD 1992b)

<u>Category of Speciality</u>	<u>Study Females</u> n(%)	<u>Study Males</u> n(%)	<u>Total Study</u> n (%)	<u>Scotland Females</u> n(%)	<u>Scotland Males</u> n(%)	<u>Total Scotland</u> n(%)
1 Physicians	40 (17.9)	81 (37.9)	121 (27.7)	77 (19.3)	522 (26.6)	599 (25.3)
2 Surgeons	8 (3.6)	42 (19.6)	50 (11.4)	12 (3.0)	489 (24.9)	501 (21.2)
3 Anaesthetists	33 (14.8)	14 (6.5)	47 (10.8)	61(15.3)	249 (12.7)	310 (13.1)
4 Laboratory	30 (13.5)	13 (6.1)	43 (9.8)	63 (15.8)	202 (10.3)	265 (11.2)
5 Public Health/ Community	17 (7.6)	16 (7.5)	33 (7.6)	38 (9.5)	80 (4.1)	118 (5.0)
6 Psychiatrists	56 (25.1)	17 (7.9)	73 (16.7)	93 (23.4)	195 (9.9)	288 (12.2)
7 Radiologists	26 (11.7)	14 (6.5)	40 (9.2)	40 (10.0)	114 (5.8)	154 (6.5)
8 Obstetrics/ Gynaecologists	13 (5.8)	17 (7.9)	30 (6.9)	14 (3.5)	114 (5.8)	128 (5.4)
TOTAL	223	214	437	398	1965	2363

However, Table 8.2 also shows significant differences in the proportion of males and females in the different specialities both for the study sample ($\chi^2 = 76.3$, $df = 7$, $p < 0.0001$) and for figures for Scotland as a whole ($\chi^2 = 173.64$ $df = 7$, $p < 0.0001$). In both of these groups the most marked difference between the sexes lies in the relative preponderance of male physicians and surgeons, and female psychiatrists.

Characteristics of the Sample

Female consultants overall were significantly more likely to be single, (including separated, widowed, divorced) ($n=74$, 33%) than were male consultants ($n=13$, 6.0%) ($\chi^2 = 50.3$, $df = 1$, $p < 0.0001$). Female consultants were also significantly more likely to be childless ($n=134$, 59.8%) than were male consultants ($n=191$, 89.3%) ($\chi^2 = 50.3$, $df = 1$, $p < 0.0001$). When 'male-dominated' and 'less male-dominated' speciality types were considered, a greater proportion of female consultants in 'male-dominated' specialities were single ($n=40$, 42.1%), than female consultants in specialities which were 'less male-dominated' ($n=34$, 26.6%) ($\chi^2 = 5.9$, $df = 1$, $p < 0.01$). A greater proportion of female consultants in 'male-dominated' specialities were also childless ($n=45$, 47.4%) than female consultants in 'less male-dominated specialities' ($n=45$, 35.2%) although this difference was not statistically significant. There was no significant difference between the proportion of male consultants in 'male-dominated' and 'less-male dominated' specialities who were either single or childless.

Workload

Workload was assessed by self-report of hours actually worked per week in total, i.e. in consultant post, together with any other posts held (e.g. teaching, industry) and other outside commitments. Hours on call were recorded separately. Two-way analysis of variance shows that hours worked varied significantly by speciality, ($F(7,404) = 7.92$, $p < 0.0001$), and by sex ($F(1,404) = 22.92$, $p < 0.0001$). Examination of group means showed that physicians (mean 53.0 hours) and laboratory specialists (mean 51.7 hours) worked the longest hours, and anaesthetists worked the least hours overall (mean 40.4 hours). Males overall worked longer hours (mean 52.0 hours) than females (mean 46.0

hours). When each speciality group was considered separately, males worked significantly longer hours than females in only two specialities, namely physicians ($t = 3.62$, $df = 109$, $p < 0.001$) and radiologists ($t = 2.44$, $df = 35$, $p < 0.05$). There was no significant interaction effect of sex and consultant speciality in terms of hours worked.

Female consultants in 'male-dominated' specialities worked significantly fewer hours per week (mean 44.0, SD 9.3) than males in 'male-dominated' specialities (mean 52.5, SD 11.7) ($t = 5.81$, $df = 234$, $p < 0.001$). They also worked significantly fewer hours than females in 'less male-dominated' specialities (mean 47.4, SD 10.8 ; $t = 2.42$, $df = 212$, $p < 0.01$). There was no significant difference in hours worked when male doctors in 'male-dominated' and 'less male-dominated' specialities were compared, or when female and male doctors in 'less male-dominated' specialities were compared.

Category of time on call also differed significantly by speciality ($\chi^2 = 152.5$, $df = 21$, $p < 0.0001$), with physicians and surgeons spending significantly more time on call than laboratory specialists or public health specialists. Males overall spent significantly more time on call than females ($\chi^2 = 18.4$, $df = 3$, $p < 0.001$). Female consultants in 'male-dominated' specialities spent significantly less time on call than male consultants in these specialities (mean 7.5, SD 3.0 vs. mean 8.9, SD 2.0; $t = 4.09$, $df = 240$, $p < 0.001$). There was no significant difference between time spent on call for females in 'male-dominated' or 'less male-dominated specialities' or between females and males in 'less male-dominated' specialities (mean 6.7, SD 3.3, vs. mean 6.6, SD 3.2; $t = 0.23$ $df = 183$, n.s.).

Occupational Stress

In order to test the hypothesis that some types of speciality may be more stressful or satisfying than others, the eight consultant speciality groups were compared firstly in terms of *Occupational stress subscales and subscale total score*, as shown in Table 8.3. One way ANOVAs comparing specialities for males and females combined, revealed significant differences on two subscales; the 'managerial role' subscale, where psychiatrists recorded significantly more stress than surgeons (Scheffe $p < 0.05$), and on the 'career and achievement' subscale, where public health specialists also recorded

significantly more stress than surgeons (Scheffe $p < 0.05$). Although there was a significant speciality effect on the 'organisational structure and climate' subscale, post-hoc Scheffe tests revealed no significant differences between groups. When the subscale scores were summed, public health/community specialists recorded the highest stress scores, and anaesthetists the lowest, although differences between the speciality groups were not statistically significant using a post-hoc Scheffe test.

Comparison with Combined Sample Norms for Occupational Stress Subscales

Table 8.3 also offers comparisons of study means with the combined sample norms. For the overwhelming majority of comparisons, consultants' scores were significantly lower than the combined sample norms, suggesting they reported less occupational stress overall. On the 'career and achievement' subscale in particular, scores were very much lower for all categories of consultants than for the normative comparison group.

Job Satisfaction

Similar analyses were carried out for the *Job Satisfaction subscales*, and the *total score*. A significant main effect of speciality emerged on only one subscale, 'Organisational design and structure' as shown in Table 8.4, with physicians recording significantly greater job satisfaction than public health specialists (Scheffe $p < 0.05$). Laboratory specialists recorded the highest, and public health/community specialists the lowest job satisfaction total scores, although there were no statistically significant differences in job satisfaction totals between speciality types.

Comparison with Combined Sample Norms for Job Satisfaction Subscales

Comparison with combined sample norms for the *Job Satisfaction subscales* as shown in Table 8.4, shows that in terms of 'achievement, value growth' and 'the job itself' consultants recorded job satisfaction scores significantly higher than norms, For other subscales the pattern was less consistent. Only public health/community consultants recorded a total job satisfaction score significantly lower than the norm, with physicians, laboratory specialists and obstetricians recording scores significantly above the norm.

Table 8.3 : Mean (SD) Occupational Stress Subscale Scores by Speciality Group and Combined Sample Norms

SPECIALITY		OCCUPATIONAL STRESS SUBSCALES								Total Score
	Factors intrinsic to the job Mean (SD)	Managerial role Mean (SD)	Relationships with other people Mean (SD)	Career and achievement Mean (SD)	Organisational structure and climate Mean (SD)	Home/work interface Mean (SD)				Mean (SD)
	F(7,416)=1.8	F(7,414) = 3.42** Scheffe 2-6*	F(7,416) = 1.53	F(7,413) = 2.73** Scheffe 2-5*	F(7,409) = 3.99***	F(7,416) = 0.85				F(7, 421) = 2.40*
1 Physicians	29.9 (6.7)	33.6 (7.8)***	31.4 (7.1)***	18.0 (7.0)***	33.2 (7.8)***	27.8 (9.5)***				167.7 (37.7)
2 Surgeons	28.0 (6.7)***	31.7 (9.1)***	28.9 (8.0)***	15.5 (6.6)***	32.4 (9.2)***	26.4 (9.5)***				157.2 (40.1)
3 Anaesthetists	27.3 (4.8)***	31.9 (7.0)***	29.3 (6.8)***	17.7 (6.9)***	32.7 (9.2)***	26.6 (7.7)***				156.7 (39.4)
4 Laboratory	28.4 (6.2)***	34.4 (9.1)***	30.6 (7.2)	19.8 (5.9)***	35.2 (8.0)***	26.7 (9.7)***				170.1 (37.1)
5 Pub. Health / Community	29.2 (6.8)***	34.4 (8.6)***	32.1 (9.2)***	21.5 (6.8)***	38.7 (10.6)	28.1 (8.2)***				180.2 (41.7)
6 Psychiatrists	29.6 (5.1)***	36.4 (7.2)***	30.8 (7.0)***	18.9 (7.7)***	36.8 (9.1)***	28.1 (7.9)***				175.8 (35.1)
7 Radiologists	28.9 (5.8)***	33.5 (8.6)***	30.4 (7.0)	19.0 (7.7)***	35.0 (8.5)***	28.3 (9.2)***				171.2 (37.6)
8 Obstetrics/ gynaecology	27.0 (6.3)***	32.7 (8.2)***	28.6 (7.2)***	17.1 (7.1)***	31.3 (8.0)***	25.7 (9.9)				157.7 (38.9)
Combined Sample Norms	30.2 (6.5)	35.6 (8.5)	30.3 (7.7)	28.4 (8.1)	39.0 (9.2)	30.1 (10.3)				-

(i) One way ANOVA and post-hoc Scheffe; Groups separated by a hyphen are significantly different from each other * p<0.05, ** p<0.01, *** p<0.001
(ii) Comparison with combined sample norms : *** p<0.001

Table 8.4 : Mean (SD) Job Satisfaction Subscale Scores by Speciality Group and Combined Sample Norms

SPECIALITY	JOB SATISFACTION SUBSCALES							Total Score
	Achievement value, growth	The job itself	Organisational design and structure	Organisational processes	Personal Relationships	Mean (SD)	Mean (SD)	
	Mean (SD) F(7,415)=1.72	Mean (SD) F(7,419)=1.83	Mean (SD) F(7,417)=3.45** Scheffe 1-5*	Mean (SD) F(7,417)=1.16	Mean (SD) F(7,413)=1.89	Mean (SD)	Mean (SD) F(7,422)=1.20	
1 Physicians	24.7 (5.4)***	16.9 (3.2)***	17.1 (4.1)***	15.1 (3.5)	11.9 (2.8)***		84.9 (17.2)***	
2 Surgeons	22.6 (5.5)***	16.9(3.7)***	16.6 (4.8)	15.0 (3.4)	11.7 (2.9)		82.7 (17.8)	
3 Anaesthetists	24.0 (5.3)***	17.7 (2.8)***	16.7 (4.1)	14.4 (3.4)***	11.6 (3.0)		82.7 (17.9)	
4 Laboratory	25.3 (4.3)***	17.6(3.7)***	16.6 (4.1)	16.1 (3.0)***	11.2 (2.7)***		86.7 (13.9)***	
5 Public Health / Community	23.6 (6.2)***	15.4 (3.4)***	13.5 (4.3)***	14.6 (4.4)***	10.1 (3.2)***		77.1 (18.3)***	
6 Psychiatrists	24.7 (4.7)***	16.2 (3.3)	15.5 (3.7)***	14.4 (3.6)***	11.2 (2.4)***		82.1 (15.0)	
7 Radiologists	22.4 (6.1)***	16.8(3.6)***	16.3 (4.8)	15.0 (3.6)	11.1 (2.9)***		81.7 (18.1)	
8 Obstetrics/ gynaecology	24.1 (5.4)***	16.9(3.5)***	17.1 (3.3)***	14.6 (3.4)	11.7 (2.5)		84.3 (14.8)***	
Combined sample norms	21.3 (5.8)	16.3 (3.2)	16.4 (4.3)	15.3 (3.8)	11.6 (2.5)		82.1 (16.6)	

(i) One way ANOVA and post-hoc Scheffe; Groups separated by a hyphen are significantly different from each other * p<0.05, ** p<0.01, *** p<0.001.
(ii) Comparison with combined sample norms : *** p<0.001

Relationship between Occupational Stress and Job Satisfaction

Analysis using Pearson correlations revealed a consistent negative relationship between occupational stress subscales and the job satisfaction total score, as shown in Table 8.5.

Correlations between occupational stress scales and job satisfaction were weaker for anaesthetists, radiologists and obstetrician/gynaecologists than for other speciality types. The 'organisational structure and climate' subscale showed the strongest pattern of association with job satisfaction, whereas the 'home-work interface' subscale was weakly correlated with job satisfaction in all specialities except psychiatrists.

Impact of NHS Change

A slightly higher percentage of male (n=173, 87%) than female consultants (n=163, 78%) ($\chi^2 = 4.15$, $df=1$, $p<0.05$) reported that recent changes in the NHS had affected their day to day job. When asked to describe in what way their job had been affected, 85% (n=286) gave responses which were rated by the author as mainly negative, 2.7% (n=9) gave responses rated as mainly positive, and the remaining 11.3% (n=41) gave responses which were unable to be categorised as positive or negative. A breakdown of the responses given, by speciality group, is given in Table 8.6. It should be noted that some items can be viewed in either a positive or negative light, for example, 'more audit, financial accountability' could be seen as a positive or negative example of NHS change.

Approximately half of the respondents in each speciality (apart from public health specialists), said their job currently involved more paperwork, administration, and 'bureaucracy' than before. Proportionately more public health specialists and radiologists than consultants in other specialities recorded having a new managerial role as a result of NHS change. Approximately a quarter of consultants in all specialities apart from obstetricians also said their overall workload (including work hours), had increased.

Table 8.5 : Correlations of Occupational Stress Subscales and Job Satisfaction for Consultants in Different Specialities

<u>SPECIALITY</u>	<u>OCCUPATIONAL STRESS SUBSCALES</u>							<u>TOTAL</u>
	<u>Factors intrinsic to the job</u>	<u>Managerial role</u>	<u>Relationships with other people</u>	<u>Career and achievement</u>	<u>Organisational structure and climate</u>	<u>Home/work interface</u>		
1 Physicians	-.27**	-.28**	-.25**	-.44**	-.34**	-.16	-.34**	
2 Surgeons	-.31*	-.30*	-.25	-.32*	-.51**	-.26	-.37**	
3 Anaesthetists	-.20	-.21	-.22	-.46*	-.29	-.02	.14	
4 Laboratory	-.13	-.32*	-.49**	-.42**	-.46**	-.29	-.44**	
5 Public Health/ Community	-.36*	-.39*	-.43*	-.48**	-.64**	-.08	-.48***	
6 Psychiatrists	-.21	-.32*	-.42**	-.44**	-.54**	-.31**	-.47**	
7 Radiologists	-.17	-.04	-.26	-.11	-.26	-.05	-.17	
8 Obstetrics/ Gynaecologists	-.19	-.09	-.08	-.04	-.16	-.03	-.10	

Key : * p<0.05, ** p<0.01, *** p<0.001

Table 8.6 : Impact of NHS Change for N = 335 Male and Female Consultants by Speciality Group

	SPECIALITY TYPE								TOTAL (n=335) n (%)
	1 Physicians n (%)	2 Surgeons n (%)	3 Anaesthetists n (%)	4 Laboratory n (%)	5 Public Health/ Community n (%)	6 Psychiatrists n (%)	7 Radiologists n (%)	8 Obstetrician/ Gynaecologists n (%)	
More admin, paperwork, meetings, bureaucracy	44 (47.3)	17 (41.5)	13 (37.1)	19 (57.6)	5 (17.2)	26 (47.3)	14 (48.3)	13 (65.0)	151 (45.1)
More audit, financial accountability	23 (24.5)	11 (26.8)	9 (25.7)	10 (30.3)	9 (31.0)	2 (38.2)	13 (44.8)	3 (15.0)	99 (29.5)
New management role	23 (24.7)	9 (22.0)	8 (22.9)	5 (15.2)	18 (62.1)	10 (18.2)	12 (41.4)	5 (25.0)	90 (26.9)
Increased workload, longer hours	22 (23.7)	10 (24.4)	7 (20.0)	8 (24.2)	7 (24.1)	17 (30.9)	7 (24.1)	3 (15.0)	81 (24.2)
Lower morale, uncertainty about the future	22 (23.7)	7 (17.1)	6 (17.1)	13 (39.4)	7 (24.1)	15 (27.3)	6 (20.7)	4 (20.0)	80 (23.9)
Loss of autonomy, authority, management interference.	22 (23.7)	11 (26.8)	5 (14.3)	4 (12.1)	10 (34.5)	14 (25.5)	8 (27.6)	3 (15.0)	77 (23.0)
Resource implications for beds, staffing levels.	21 (22.6)	9 (22.0)	8 (22.9)	4 (12.1)	1 (3.4)	13 (23.6)	9 (31.0)	2 (10.0)	67 (20.0)
Fall in standards of clinical and material care	14 (15.1)	6 (14.6)	7 (20.0)	2 (6.1)	3 (10.3)	6 (10.9)	7 (24.1)	5 (25.0)	50 (14.9)
More conflict with colleagues, patients demands	11 (11.8)	6 (14.6)	3 (8.6)	3 (9.1)	3 (10.3)	5 (9.1)	4 (13.8)	3 (15.0)	38 (11.3)

Comparison of 'Male-Dominated' and 'Less Male-Dominated' Specialities

To examine the second hypothesis, male and female consultants in 'male-dominated' specialities were compared with those in 'less male-dominated' specialities in terms of occupational stress and job satisfaction subscales and totals as shown in Table 8.7.

Surprisingly, female doctors in 'male-dominated' specialities recorded consistently lower occupational stress subscale scores than females in 'less male-dominated' specialities, and these differences were statistically significant on two subscales, 'managerial role' ($p < 0.01$) and 'organisational structure and climate' ($p < 0.001$), and the summed subscale score ($p < 0.01$). Females in 'male-dominated' specialities also recorded consistently higher job satisfaction scores than females in 'less male-dominated' specialities, with the differences being statistically significant in three subscales 'the job itself' ($p < 0.01$), 'organisational design and structure' ($p < 0.01$) and 'personal relationships' ($p < 0.01$). Again these differences were contrary to expectations. There were no significant differences between male consultants' occupational stress or job satisfaction subscale scores or total in 'male-dominated' or 'less male-dominated' specialities.

Hierarchical regression analyses, shown in Table 8.8, revealed that marital status and parental status predicted approximately 10% more variance in job satisfaction for female consultants in 'male-dominated' specialities than for females in 'less male-dominated' specialities or for male consultants, with marriage and parenthood being generally positively related to job satisfaction. Hours worked and time on call together only contributed a small amount of variance in job satisfaction for each group, but interestingly, hours worked was positively associated with job satisfaction for males in 'male-dominated' and 'less male-dominated' specialities, and for females in 'male dominated specialities'. Hours worked and time on call were negatively predictive of job satisfaction for females in 'less male-dominated' specialities.

Table 8.7: Comparison of 'Male-dominated' and Less Male-dominated' Speciality Groups' Occupational Stress and Job Satisfaction Subscale Scores for Male and Female Consultants

	<i>Females</i>			<i>Males</i>		
	<i>Male-Dominated n=95 Mean (SD)</i>	<i>Less Male Dominated n=128 Mean (SD)</i>	<i>t</i>	<i>Male-Dominated n=154 Mean (SD)</i>	<i>Less Male Dominated n=60 Mean (SD)</i>	<i>t</i>
<i>Occupational Stress</i>						
Factors intrinsic to the job	28.2(5.1)	29.4(5.4)	1.62	29.0(7.2)	28.5(6.6)	0.50
Managerial Role	32.6(6.7)	35.3(7.8)	2.72**	32.9(8.7)	34.4(9.1)	1.07
Relationships with other people	30.4(6.6)	31.1(6.9)	0.99	30.0(7.7)	29.9(8.6)	0.02
Career and achievement	18.0(6.6)	19.6(6.8)	1.64	16.9(7.1)	19.7(8.0)	2.24
Organisational structure and climate	33.0(8.1)	37.3(9.0)	3.65***	32.5(8.5)	34.7(9.0)	1.54
Home/Work Interface	26.2(8.6)	27.9(8.2)	1.51	27.6(9.6)	27.6(9.4)	0.02
Job Stress Summed Score	163.5 (32.2)	176.2 (34.6)	2.80**	161.5 (42.7)	170.4 (42.2)	1.36
<i>Job Satisfaction</i>						
Achievement, Value, Growth	24.8(5.6)	24.4(5.0)	0.53	23.7(5.3)	23.6(6.0)	0.08
The Job Itself	17.8(2.5)	16.6(3.5)	2.98**	16.6(3.6)	16.4(3.7)	0.43
Organisational Design and Structure	17.0(3.9)	15.2(4.2)	3.11**	16.9(4.3)	16.2(4.3)	0.98
Organisational Processes	14.7(3.3)	14.6(3.7)	0.11	15.1(3.5)	15.4(3.6)	0.69
Personal Relationships	12.1(2.8)	10.9(2.7)	3.08**	11.6(2.8)	11.2(2.7)	0.92
Job Satisfaction Total	85.1(16.7)	81.8(16.2)	1.49	83.3(17.4)	82.9(16.4)	0.16

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

Table 8.8 : Hierarchical Regression Analysis of Job Satisfaction for Female and Male Consultants in Male-Dominated and Less Male-Dominated Specialities

Regression Variables :	Females				Males			
	Male Dominated Specialities (n=95)		Less male-Dominated Specialities (n=128)		Male Dominated Specialities (n=154)		Less male-Dominated Specialities (n=60)	
	β	R ²	β	R ²	β	R ²	β	R ²
Marital Status	.16		.15		.03		.11	
Parental status	.20		-.05		.13		.01	
		.11		.01		.02		.01
Hours worked	.08		-.06		.17*		.11	
On Call	.04		-.17*		.04		-.01	
		.13		.04		.05		.02
Subscales								
Factors intrinsic to the job	-.34*		.25*		-.03		-.14	
Managerial Role	.18		.34**		.08		-.24	
Relationships with other people	.10		-.30**		.13		.05	
Career and achievement	-.24		.04		-.18		-.31	
Organisational structure and climate	-.17		-.59***		-.26*		-.15	
Home/Work Interface	-.02		-.28**		-.17		.39	
Final R ²		.30		.45		.26		.26
Final F		3.7***		9.7***		3.5***		1.8

Key : * p<0.05, ** p<0.01, *** p<0.001

Stress from the 'home-work interface' was a significant negative predictor of job satisfaction for female consultants in the 'less male-dominated' group, but not for any other group. The individual occupational stress subscales also contributed significantly to the regression equation for female consultants in 'less male-dominated' specialities, explaining 41% of variance in job satisfaction for this group, but only 17%, 21% and

24% of variance for females in 'less male-dominated' specialities, and males in 'male-dominated' and 'less male-dominated' specialities respectively.

8.7 Discussion

The role of medical consultant embodies many different demands, encompassing many sources of occupational stress and job satisfaction, as revealed in this a large scale study of consultant physicians across a wide range of specialities. The study was unusual in having a sample of approximately equal numbers of males and females. Since females are numerically underrepresented in almost all medical specialities, most previous studies have included only small numbers of females as part of a larger, male focused sample, or have focused on one particular speciality.

The results revealed differences in sources and levels of occupational stress and job satisfaction between consultant speciality types. Doctors working in the fields of public health and community medicine, for example, recorded the highest stress scores and the lowest job satisfaction scores. One explanation for this may be the somewhat different role and lower status of doctors in this speciality compared with others, being more managerial in function, isolated from colleagues, and more distanced from the 'sharp edge' of medicine (BMA 1992; Elston 1993). The increased managerial demands placed on this role as a result of NHS change may also be more stressful for those doctors who lack specific training or experience in management skills.

Other studies have identified certain medical specialities as being particularly stressful because of their inherent characteristics. For example the managerial complexities of the psychiatric profession have been linked with high levels of physician impairment (Swearingen 1990; Yager and Greenblatt 1994). Psychiatrists' summed stress scores were the second highest overall in the present study, and they had the highest scores on the 'managerial role' subscale, confirming findings of other studies.

The role of surgeons has been described as having a profile of high demand and high discretion, using Karasek's concept of job decision latitude (Payne 1987; Ramirez et al.

1996). In a study by Linn and Zeppa (1984) a particular personality profile was ascribed to surgeons characterised as authoritarian, status seeking, and 'resistant' to stress. Although described by medical students in Linn and Zeppa's study as the most stressful speciality, the majority still described surgery as being their first choice of speciality. Conversely, a recent study reported surgeons to have the lowest morale among hospital consultants (BMA 1991). The present study failed to identify surgery as the 'most stressed, most satisfying' speciality, although this may be a reflection of the inclusion of a broader range of specialities under the heading of surgery than is normally applied.

Anaesthetists have been shown in previous studies to be particularly vulnerable to impairment in terms of substance abuse and mental illness, (Lewy 1986; Talbott et al. 1987), although most studies have been carried out in largely male samples. The present study did not investigate behavioural or psychological outcomes of occupational stress, although anaesthetists reported the lowest total perceived occupational stress scores.

Obstetricians and gynaecologists have been thought to be particularly vulnerable to stress due to the increased possibilities for litigation, leading to defensive practising in their speciality (BMA 1992). This speciality group was not found to have significantly higher occupational stress scores than others in the present study, although the measures used in this study did not specifically address the possibility of litigation as a source of stress.

Radiology, characterised as a speciality having less control over work patterns, and less patient contact, was also found by Ramirez et al. (1996) to have a profile of low stress and low satisfaction. The present study found radiologists to have low job satisfaction and the third highest stress scores in comparison with other specialities. Laboratory doctors have similar speciality characteristics to radiologists, however, although laboratory doctors and radiologists had a similar profile of stressors, laboratory doctors reported the highest job satisfaction scores in the study.

Differences between findings of previous research and the present study may be accounted for by several factors. Firstly, the sample in the present study was deliberately constructed to include balanced numbers of female and male doctors. In some specialities where males normally predominate to a greater extent this may have led to a sample in the present study with rather untypical characteristics, if we accept that there are gender differences in the experience of stress and job satisfaction. Previous studies in general practitioners have suggested that females generally report greater job satisfaction than males (Cooper et al. 1989; Sutherland and Cooper 1992), although this may not be the case for female consultants (Swanson et al. 1996a). The fact that fewer differences have been found in levels of occupational stress for male and female doctors, may reflect a failure to consider sources of stress particularly applicable to females, such as sex discrimination in the workplace, or availability of adequate childcare facilities.

Secondly, the present study chose to measure perceived sources and levels of occupational stressors, and their relationship with job satisfaction as an outcome variable, rather than investigating mental health outcomes such as psychiatric morbidity, or 'burnout'. Identification of personality variables which may influence appraisal of stressors and resultant experience of strains was not an aim of the present study. This is not to deny the importance of aspects of personality, psychosocial characteristics, attitudes and behaviour in determining the experience of strains (physical or psychological morbidity) as a consequence of occupational stress. The results of the present study suggest that overall occupational stress levels are lower and job satisfaction is higher in medical consultants than for many other types of occupation, yet most studies of the outcomes of such stressors suggest that doctors experience high levels of work-related strains. Further research into psychological characteristics of those individuals more resistant to stress in the medical professions, relative to the particular characteristics of their speciality, may assist in illuminating reasons for failure to cope with stressors in other individuals.

The predictive ability of self-rated items such as occupational stress and job satisfaction can be called into question, since it is argued that dispositional characteristics such as

negative affectivity or neuroticism are the main determinants of rating of attitudinal items, and affective outcomes such as anxiety, or well-being (Watson and Clarke 1984; Ormel and Woolfarth 1991; Burke et al. 1993). It is argued that a common dispositional perspective may lead to a large overlap in the concepts of occupational stress and job satisfaction, making the use of separate measures rather redundant. However, the relationship between occupational stress and job satisfaction may be seen to be more complex and dynamic than static, and responsive to changes in situational, organisational, and temporal factors in addition to being affected by dispositional sets (Burke 1976; Newton and Keenan 1991). Other researchers have reported that negative affectivity fails to account for much of the variance in the relationship between stressors and strains (Chen and Spector 1991; Decker and Borgen 1993). It is also suggested that personality traits may alter in response to organisational situations (Davis-Blake and Pfeffer 1989). Although the contribution of underlying negative affectivity or neuroticism are often discussed in the study of occupational stress, the influence of positive dispositional factors such as positive affectivity, or self-esteem have been considered less frequently but have also been shown to be important (Deary et al. 1996).

Although dispositional characteristics were not addressed within the present study, a consistent negative relationship between different aspects of occupational stress and job satisfaction was found for each speciality grouping, with the degree of correlation varying between speciality groups, and by type of stressor. This was a similar finding to the study by Richardsen and Burke (1991), which found that males and females who reported greater occupational stress reported higher levels of job dissatisfaction. Richardsen and Burke (1991) also noted that shorter working hours were associated with greater job satisfaction for females, but not for male consultants. The present study found that longer working hours were a positive predictor of job satisfaction for both male and female consultants in 'male-dominated specialities' but for male consultants only in 'less male-dominated' speciality types.

The division into broad speciality groups may be criticised for being over-general, failing to take account of wide variations within groups. Inevitably some specialities, for

example, accident and emergency, did not fit neatly into categories, but were too numerically small to comprise a single group for comparison, so were included in the 'surgeons' group, but could equally have been grouped with 'physicians'. The 'physicians' group was the largest, containing diverse specialities, whereas others such as 'obstetrics/gynaecology', and 'radiology' were retained as separate categories for this analysis. It may be that the findings of this study, whereby some speciality groups have been shown to have greater stress or job satisfaction than others, are a reflection of the homogeneity of roles or functions of specialities within the group in question, and the heterogeneity of specialities included in others.

As with other studies (Smith et al. 1985, Myerson 1993) a higher response rate for females than males was observed in the present study. Unfortunately, since questionnaire responses in the present study were anonymous, it was not possible to determine other characteristics of non-responders.

The response of consultants in the study to changes in the structure of the NHS at the time this study was carried out, were overwhelmingly negative. The impact of change was experienced by all speciality groups and they were noticeably critical of new management structures, additional administrative workload, and poor resources in some areas of health care. Although not all change was seen as negative, a high proportion of the changes mentioned were linked with lowered morale, a sense of loss of autonomy for doctors, and lowered job satisfaction. This study was carried out in the early period of change in the NHS, and some of the organisational stressors noted by participants in the study may have been resolved as individuals became accustomed to new ways of working. Although there was a small time difference of six months between sending out questionnaires to female and male consultants, this gap was not of sufficient length to suggest any differences in response due to the pace of introduction of service changes.

This study found interesting differences in occupational stress and job satisfaction between female consultants in 'male-dominated' and 'less male-dominated' specialities. Whereas specialities such as psychiatry, and anaesthetics are seen as facilitating the

combination of marriage and family life with careers, surgical specialities in particular have been described as 'unsuitable' careers for women (Ducker 1980; Dillner 1991). Dillner (1991, p.734) notes that "*success for women in surgery is linked to marrying late, if at all, and childlessness*", and this profile is echoed by the females in 'male-dominated' specialities in the present study. The present study found females in 'male-dominated' specialities to be more likely to be single and childless than those in other specialities, confirming findings of previous research (Ducker 1980; Allen 1988). Those in 'male-dominated' specialities were also characterised as working fewer hours, reporting significantly less stress from their managerial role and the structure of the organisation, and significantly more job satisfaction from the design and structure of their work role, and from personal relationships, than females in 'less male-dominated' specialities. Occupational stressors, and time on call were significant predictors of job satisfaction for females in 'less male-dominated' specialities, but not for females in 'male-dominated' specialities. The interface between home and work was also a significant predictor of job dissatisfaction for females only in 'less male-dominated' specialities. These findings were contrary to expectations. If the 'minority status' hypotheses were correct, females in 'male-dominated' specialities might have been expected to report greater stress due to their managerial role and relationships at work, than those in other specialities, which was not the case.

There are several possible explanations for these findings. Firstly, it may be that in order to achieve consultant status in 'male-dominated' specialities, female doctors need to possess 'stress-resilient' personality characteristics, or develop relevant coping strategies or behaviours during training, suggesting individuals may 'self-select' into types of speciality. Investing time in career at the expense of personal relationships or family life may also be a characteristic of females who achieve consultant status in these specialities. Secondly, it may be that the character of work in 'male-dominated' specialities is more demanding, but intrinsically more rewarding, and higher status than in other types of speciality. However, if this were the case, one would have expected differences in levels of stress and job satisfaction for males in 'male-dominated' in comparison with males in 'less male-dominated' specialities, and such differences were

not found in this study. A third explanation may lie in a greater degree of role conflict for female doctors in 'less-male dominated' specialities. In this study, female doctors in 'less male-dominated specialities' were more likely to be married, to be parents, and to work longer hours, than other female consultants. Stress between work and home, and time spent on call were also significant predictors of job dissatisfaction in 'less male-dominated' specialities. It may be that greater domestic role demands contribute towards higher levels of occupational stress for this group. Finally, the questionnaires used in this study may not have adequately tapped the specific occupational structures or characteristics in medical careers which specifically contribute towards females' experience of minority or 'outsider' status, or sex discriminatory practices in the workplace. In a study of sexual harassment in organisations, Fitzgerald et al. (1994) note the importance of developing theoretically based models with specific measures applicable in organisational settings, and the paucity of theoretically sound measures in this subject area. Future research might usefully address these issues in greater depth in female medical professionals.

CHAPTER 9 :

**Comparison of Gender Stereotypes
and Social Role Stereotypes
in Male and Female
General Practitioners and Consultants**

9.1 Summary

This study aimed to examine doctors' perceptions of how males and females differ in their medical roles. Male and female role stereotypes have been shown to comprise components based on *gender stereotypes* of the social categories of 'male' and 'female', and gender based stereotypes of the *social roles* they inhabit. *Gender stereotypes* may comprise judgements regarding both physical appearance or attributes (e.g. males perceived as larger, stronger and fitter than females) and personality trait attributes of males and females (e.g. males perceived as more authoritarian than females, females as more emotionally sensitive than males). *Social role stereotypes* comprise judgements including those regarding the individual's occupational or domestic role. This study aimed to investigate the relationship between components of role stereotypes, considering aspects which were perceived as positive (advantageous) or negative (disadvantageous). The impact of demographic differences, i.e. age, marital status and parental status, and different types of medical speciality on stereotypes and the relationship of stereotypes to occupational stress, job satisfaction, and domestic stress were investigated. Subjects comprised all female GPs and consultants and all male GPs and consultants (N=986) in the present study.

Results indicated that males were more likely to report male stereotypical physical characteristics, and male occupational and domestic stereotypes as advantageous in medicine, and male personality traits as disadvantageous, whereas females were more likely to report female personality traits as advantageous and female occupational and domestic stereotypes as disadvantageous.

Younger female doctors were less likely than females in older age groups to report female personality traits as *advantageous* and younger male doctors were more likely than males in older age groups to report male personality traits as being *disadvantageous*. Females in the younger age group were also significantly more likely to report female domestic role stereotypes as advantageous than females in older age groups, whereas males in the younger age group were more likely to

report male domestic role stereotypes as disadvantageous than males in older age groups.

Comparisons between females and males in different consultant specialities revealed that females were significantly more likely than males to report their own gender personality traits as advantageous in medicine in five out of eight speciality groups. For male doctors, reporting of male occupational and domestic stereotypes as disadvantageous was significantly correlated with higher levels of occupational stress and lower levels of satisfaction with job, career and pay. This relationship was not significant for female doctors.

9.2 Introduction

Stereotype : “a person or thing that conforms to an unjustifiably fixed usually standardised mental picture - such an impression or attitude”.

Concise Oxford Dictionary, 1990.

It is important to distinguish between gender stereotypes and gender-based social role stereotypes. The former refer to sets of beliefs about the social categories of ‘male’ and ‘female’, and how men and women differ in terms of behaviours, traits, and abilities, whereas the latter refer to sets of beliefs about how people think men and women differ in their social roles (Ashmore and Del Boca 1979). The search for sexual equality and the emergence of feminism have engendered a mass of research over the past forty years or so with the intention of clarifying the relative contributions of heredity, and physical and social environment to perceived differences in behaviour, traits, attitudes and capabilities between males and females. Earlier studies tended to emphasise similarities rather than differences between the sexes as a justification for sexual equality. For example, Maccoby and Jacklin ‘s (1974) review of findings of over 1400 published studies concluded that very few socio-psychological sex differences were substantiated, finding significant differences only in some areas of cognitive and intellectual skills, i.e. male superiority in mathematical and spatial ability, and female superiority in verbal abilities, and one area of social behaviour, with males being more likely to display aggression. Although their study has subsequently been criticised (Block 1976), for failing to consider other social or situational variables (e.g. performance in group settings), more recent searches for differences due to gender alone as a subject variable have similarly failed to account for large proportion of variance, suggesting that the role of gender per se as a differentiating variable may be less important for stereotype formation than other information about individuals, such as their involvement in social roles, particularly with reference to differences in males’ and females’ occupational and domestic roles (Locksley et al. 1980; Jick and Mitz 1985; Baruch et al. 1987; Martocchio and O’Leary 1989). This apparent failure to identify differences in gender-based characteristics and behaviours, is however contrary to the reality of people’s day to day experience, whereby gender

role stereotypes play an important part in perceptions, attitudes and behaviours towards males and females both individually and within social groupings. Lippman (1922) described stereotyping as a way of simplifying, managing or understanding generalisations about categories of people, but argued that such simplifications must necessarily be unjust. Racial stereotyping for example, is seen as an excuse for prejudice or social injustice. As defined above, the term 'stereotype' is generally used to suggest a negative image or attitude, based on socially acquired and culturally specific values. However, more recent research has tended to move away from the concept of stereotypes as negative judgements that deviate from some true state and to move toward a more neutral view that emphasises the value of stereotypes in prediction of group membership (McCauley et al. 1980), concentrating on processes in stereotype formation and content of stereotypical views, rather than their 'rightness' or 'wrongness'.

Gender Stereotypes

Particularly since the upsurge in feminist writing in the early 1970s' gender stereotyping has been the subject of much analysis. In particular, clusters of personality traits and behaviours have been used to define gender stereotypes. For example, Broverman et al. (1972) identified traits associated with males as being characterised by competence and rationality, whereas females were associated with warmth and expressiveness. Bem (1974) also developed a checklist of 'masculine' items including 'aggressive', 'assertive', 'ambitious' and 'feminine' items, including 'tender', 'understanding' and 'sensitive' in order to differentiate between masculine, feminine and androgynous sex-roles. A study by Spence et al. (1975) characterised male roles as 'instrumental' (ambitious, original, competitive, self-confident) and female roles as 'expressive' (kind).

In a series of studies of (approximately 180) students, Deaux and Lewis (1984) developed a categorisation of gender stereotype components and investigated their degree of influence on stereotyping and their interrelationship. *Physical* descriptors used in their studies were "tall, strong, sturdy and broad shouldered" for

males and “soft voice, dainty, graceful and soft” for females. Masculine *traits* were “independent, active, competitive, can make decisions easily, never gives up easily, stands up well under pressure, and feels superior”. Feminine *traits* were “emotional, able to devote self completely to others, gentle, kind, aware of the feelings of others understanding to others, warm in relations with others, and helpful to others”. *Occupational* categories used were “telephone installer, police officer, automobile mechanic, construction worker, hairdresser, secretary, telephone operator and registered nurse”. *Role stereotypes* were “financial provider, head of household, takes initiative with opposite sex, assumes financial obligations” for males, and “takes care of children, tends the house, does the laundry, and cooks the meals” for females. Summarising these studies, Deaux and Lewis (1984) suggested that gender stereotypes consist not only of aspects of physical appearance and personality trait characteristics of males and females, but have multiple components, including social role behaviours and occupational characteristics as separate but interrelated components. Gender stereotype components, particularly those based on stable physical appearances of males and females were also seen as more durable, or of greater weight than those based on social roles which may appear less fixed over time. Although this classification is intuitively appealing, it is noted that there is a problem of overlap between categories, for example, some physical characteristics such as ‘broad shouldered’ and ‘soft’ also carry trait implications. However, of further interest in Deaux and Lewis’s work is the emphasis on relative rather than absolute categories of stereotyping, suggesting that qualities such as competitiveness or emotionality are perceived as being attributable to both males and females, but to differing degrees.

Social Roles - Occupational and Domestic Stereotypes

It is suggested that the clarity of gender role stereotypes is at its strongest within the interdependent social domains of work and the family (Deaux 1984), and the relative distribution of males and females within the domestic and occupational labour forces has been subject to considerable analysis. Occupations can be viewed as being segregated externally, i.e. seen as preponderantly ‘male’ or

'female' in character with the majority of role incumbents being male or female, or internally whereby male and female roles are segregated within an occupation, with males tending to occupy higher hierarchical levels overall. However, the gender composition of many types of occupation is not fixed, but variable according to the position of males and females in society at one point in time, as determined by cultural, political, social and economic factors.

The medical profession has been seen in the past as stereotypically male, characterised by autonomy, paternalistic attitudes, career protectionism and prejudice against females, and some medical specialities are perceived as being stereotyped as more 'male' or 'female'. This may depend partly on the characteristics of the work tasks within the role and partly on traditional career patterns, with some specialities being seen as 'suitable' for males or females because of their traditional social roles (See Chapter 3, pages 68-70). Attribution of role stereotypes might also be expected to vary by other characteristics, such as the gender, age, background, marital and parental status of the subject (Quadagno 1976; Shapiro et al. 1983) although such factors have not been routinely investigated.

Some researchers have suggested that there is increasing gender similarity in values as to what constitutes an ideal balance between work and family roles (Pleck 1985; Cohen 1987; Fiorentine 1988; Clavan and Robak 1978) although these values may not be reflected in changes in behaviour. Although many studies have investigated role conflict as a source of pressure between home and work for female doctors (for example, Ducker 1980; Myers 1984; Allen 1988; Firth-Cozens 1990), reporting of desired changes in the balance between home and family life for male doctors is a relatively recent phenomenon (Allen 1994; Winefield et al. 1994), but one which may have important implications for occupational stress and job satisfaction.

An earlier study by Clavan and Robak (1978) comparing male and female medical students' attitudes towards work and professional values, found few gender

differences, concluding that degree of work/family role conflict was similar for both sexes, with males and females showing a similar desire for future participation in family life. However this study was carried out in a population of students before actual involvement in medical careers, so was based on preconceptions rather than actual career experience. Whereas male physicians have been noted to express a desire to spend more time with their families, in practice, few males translate these attitudes into actual behaviour, with female physicians being far more likely than males to adjust their working hours to accommodate family demands (Martin et al. 1988; Grant et al. 1990; Uhlenberg and Cooney 1990). A further hypothesised source of difference between male and female doctors lies in their attitudes to patient care, and in patients' attitudes to treatment by male and female doctors. Although evidence is by no means conclusive, some authors have suggested that female doctors carry out more 'patient centred' consultations than male doctors (Martin et al. 1988; Bensing et al. 1993; Delgado et al. 1993). Patients have also been shown to rate female doctors as more empathetic, and better communicators than male doctors (Heins et al. 1979; Shapiro 1983; Waller 1988; Meeuwesen et al. 1991) although the majority of such studies have been carried out in general practice rather than in hospital settings.

Aims

The present study aimed to consider differences between male and female general practitioners and consultants in terms of perceived gender role stereotypes. Based on the categorisation of gender stereotype components by Deaux and Lewis (1984) described above, the relationship between positive and negative aspects of *gender stereotypes* (physical appearance, personality traits) and *social role stereotypes* (occupational and domestic roles), and their relationship with occupational and domestic stress and job satisfaction were considered. The impact of demographic differences, i.e. age, marital status and parental status was also investigated. It was also hypothesised that individuals in different types of medical speciality may have varying perceptions of the value of 'female' or 'male' personality traits in medicine.

9.3 Method and Subjects

For this study, subjects comprised all female general practitioners and consultants (n = 507) and all male general practitioners and consultants (n= 479) in the sample. Selection of the study sample, and the data collection methodology have been described previously (Chapter 5, page 110-113).

9.4 Measures

- i.) Demographic variables : Speciality type (GP or consultant), and speciality groups for consultants were recorded. Speciality groupings were : Physicians, Surgeons, Anaesthetists, Laboratory Specialists, Public Health and Community Specialists, Psychiatrists, Radiographers, and Obstetricians/Gynaecologists. Allocation to speciality groupings has been described previously in Chapter 8 (page 186). Sex, marital status (single, separated, widowed, divorced (SWD) or married /cohabiting) and parental status were recorded. Age was coded into 3 age groups : a) 26 to 35; b) 36 - 50 ; c) 51 and over.
- ii.) Gender-role and social role stereotypes : To investigate stereotypical attitudes, all subjects were invited to list in open-ended questions, up to three perceived advantages and up to three disadvantages of being male (for male GPs and consultants) or being female (for female GPs and consultants) in medicine. Responses were transcribed in full, and subsequently classified by the author into four dichotomous (recorded/not recorded) gender role components, based on the categorisation by Deaux and Lewis (1984) described above, and as recorded by subjects as either positive (advantageous) or negative (disadvantageous). The components were: a.)gender based physical appearance or attributional stereotypes (*'physical stereotypes'*), b.)gender personality or psychological trait stereotypes (*'trait stereotypes'*), c.)occupational social role (*'occupational stereotypes'*) and d.) domestic social role (*'domestic stereotypes'*)¹. The coding schema for

¹ As noted in Deaux and Lewis's (1984) study, there is potentially overlap between categories, and when data is in an open-ended format, judgements have to be made regarding allocation of statements to a particular category. Statements which were ambiguous were therefore only classified where they could be clearly allocated to one category. For example, some subjects had given the response "patients prefer female doctors", without stipulating the grounds for this preference. Such responses were coded as 'missing data' and not included in this analysis.

allocation of responses to these four categories, for males and females is presented below in Table 9.1.

Table 9.1 : Coding of Advantages/Disadvantages of Being Male or Female

<p><u>1. Males : Advantages</u></p> <p><u>a) Physical gender stereotypes</u> Physical superiority, cope with violence, relationships with females at work, better health, cope with stress better, no gynaecological, hormonal health problems.</p> <p><u>b) Trait gender stereotypes</u> More authority, dominance, respect from others, paternalistic, decisive, competitive, hierarchical, leadership qualities, decision making, controlled aggression, energetic, no mood changes, emotional stability, credibility, inspire confidence, assertive.</p> <p><u>c) Occupational gender-role stereotypes</u> Traditional role, good career prospects, peers mostly male, 'old boys network', easier career progress, geographically mobile, male role models, job security, high status, good pay, fewer 'problem' patients, high (full-time) commitment, no discrimination, patients and staff prefer a male, hard working, control over policies, relate to (male) managers.</p> <p><u>d) Domestic gender-role stereotypes</u> Don't need breaks for childcare, no domestic duties, can have a wife, good home life support, fewer domestic/childcare responsibilities, breadwinner, no family conflict, less emotional involvement with home life, easier to have a family and full-time job, can separate work and home, no shopping.</p>
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<p><u>2. Males : Disadvantages</u></p> <p><u>a) Physical gender stereotypes</u> Difficulty being male in speciality dealing with females (obs/gyn, well woman), need chaperone, impact on male health (alcohol abuse, heart disease), aggression from males, subject to sexual harassment / complaints / litigation from female patients.</p> <p><u>b) Trait gender stereotypes</u> Having to be 'strong', not sympathetic, empathetic, 'macho', expected to cope, not to be stressed, feel isolated, don't relate well to 'female' problems, childcare issues etc., not 'good listener', not allowed feelings, no-one to turn to, lower emotional sensitivity, avoid emotional issues, poorer relationships with staff and patients, stiff upper lip.</p> <p><u>c) Occupational gender-role stereotypes</u> See 'worst' patients, drug addicts, aggressive, worst areas, heavy workload, more on call, more expected of you, have to lead team, can't change career, don't see as many female patients, have to take on organisational role, carry the can, have to cover for female partners, work ethic expectation, too much pressure, high expectations.</p> <p><u>d) Domestic gender-role stereotypes</u> Have to be breadwinner, no allowances for home life, no paternity leave, no time for home life, can't opt out, less financial support from partner, less ability to do part-time work.</p>

3. Females : Advantages

a) Physical gender-role stereotypes

Being a female, manipulate males, sex appeal.

b) Trait gender-role stereotypes

Insight, caring, understanding, gentle, sympathetic, can do several things at once, attention to detail, relate to patients, staff, conscientious, skilful, good communicators, supportive, good listeners, balanced view, intuitive, less conflict, practical, non-competitive, less status-conscious, more holistic, less cut-throat, less aggressive.

c) Occupational gender-role stereotypes

Role in female medicine - family planning work etc., being a token female, high profile, status, good pay, holidays, flexible career, intellectually fulfilling, patients prefer female doctors, role model for other female doctors, some positive discrimination.

d) Domestic gender-role stereotypes

Part-time work available, can have career breaks, less financial (breadwinner) pressure, can have multiple roles, good maternity benefits, less career pressure.

4. Females : Disadvantages

a) Physical gender-role stereotypes

Sexual behaviour /harassment from male patients, physically demanding work, vulnerable to attack during out of hours calls, aggressive patients, pregnancy, pre-menstrual tension, physically vulnerable, lack strength, chronic fatigue, less stamina, more stress-prone.

b) Trait gender-role stereotypes

Have to overrule motherly tendencies, care too much, emotionally vulnerable, taken advantage of, seen as a soft touch, too emotional, lack of competitiveness/aggression, get emotionally drained, too involved, anxious, lack authority, feel guilty saying no.

c) Occupational gender-role stereotypes

Male dominated career, have to work harder to compete, do better to be equal, caring makes work harder, less respect from staff, patients, colleagues, have to compromise choice of speciality, less private practice, given 'female' jobs to do, e.g. gynaecology, psychological problems, training and career progress is difficult, isolation, no role models, less status, made to feel second class, higher expectations from colleagues, difficult to get GP partnership, passed over for promotion.

d) Domestic gender-role stereotypes

Family / career conflicts, second to partner's career, have to take career breaks, maternity leave, juggling family life, no wife, few part-time posts, sacrifice career, difficult to work long hours, go to evening meetings, long hours on call, antisocial hours, home responsibilities, commitments, financial cost of childcare, have to do two jobs at once, guilt re family.

iii.) Levels of stress and satisfaction : Occupational stress, domestic stress, job satisfaction, satisfaction with pay, and satisfaction with overall career were recorded using single-item, 5 point, likert-type measures, with responses graded from 1 = not at all stressful to 5 = extremely stressful or from 1 = very dissatisfied to 5 = extremely satisfied.

9.5 Analysis

Analysis of the qualitatively derived data on gender stereotype components and comparisons in terms of demographic characteristics (age, marital status, parental status) were carried out separately for males and females using chi square analysis. Subsidiary analysis was carried out comparing subjects' perception of the value of female and male personality *traits* in medicine. Firstly, comparisons were made between GPs and consultants as to the frequency of reporting of trait stereotypes. Secondly, individual consultant specialities were compared regarding the extent to which females perceived female traits as advantageous or disadvantageous, and the extent to which males perceived male traits as advantageous or disadvantageous. Likert type items assessing levels of stress and satisfaction were treated as interval data for this analysis, and comparisons between groups were conducted using t-tests. Non-parametric (Spearman's rho) correlation coefficients were used to investigate the strength and direction of relationships between stereotype components. Pearson correlations were used to investigate relationships between levels of stress and satisfaction and stereotype components.

9.6 Results

Demographic Data

The composition of the sample in terms of demographic characteristics is illustrated in Table 9.2. There was a significantly larger proportion of females than males in the 26-35 age group, and a larger proportion of males in the 51 and over age group than females ($p < 0.001$). Males in the sample were significantly more likely to be married/cohabiting than were females ($p < 0.001$), and were also significantly more likely to be parents than were females ($p < 0.001$).

Table 9.2 : Demographic Characteristics of Male and Female GPs and Consultants in the Study.

	<u>Females</u> <u>n(%)</u>	<u>Males</u> <u>n(%)</u>	χ^2	<u>df</u>	<u>p</u>
Age 26 - 35	145 (28.8)	72 (15.1)	30.5	2	0.001
Age 36 - 50	274 (54.4)	283 (59.3)			
Age 51 and over	85 (16.9)	122 (25.6)			
	<u>507</u>	<u>477</u>			
Married/Cohab	379 (74.8)	346 (93.1)	60.7	1	0.001
Single, SWD.	128 (25.2)	33 (6.9)			
	<u>507</u>	<u>479</u>			
Parent	326 (64.3)	419 (87.8)	74.1	1	0.001
Non-parent	181 (35.7)	58 (12.2)			
	<u>507</u>	<u>477</u>			

Male and female doctors were also compared in terms of perceived levels of occupational stress, domestic stress and satisfaction with their job, pay and overall career as shown in Table 9.3. Females recorded significantly less occupational stress than males ($p < 0.001$), whereas males recorded significantly less domestic stress ($p < 0.05$), and significantly less satisfaction with their job ($p < 0.001$), their pay ($p < 0.001$) and their overall career ($p < 0.01$) than females.

Table 9.3 : Comparisons of Male and Female GPs and Consultants in terms of Occupational and Domestic Stress, and Aspects of Job Satisfaction

	<u>Females</u> <u>mean (SD)</u>	<u>Males</u> <u>mean (SD)</u>	<u>t</u>	<u>df</u>	<u>p</u>
Occupational Stress	3.4 (0.8)	3.6 (0.8)	4.63	966	0.001
Domestic Stress	2.3 (0.8)	2.2 (0.8)	2.37	972	0.05
Job Satisfaction	3.3 (1.0)	3.1 (1.0)	4.02	979	0.001
Pay Satisfaction	3.3 (0.9)	2.8 (0.9)	7.95	980	0.001
Career Satisfaction	3.3 (0.9)	3.1 (1.0)	3.15	975	0.01

Gender Stereotypes and Social Role Stereotypes

Perceived advantages of being male (for male doctors) or female (for female doctors) were categorised as : a) gender-based physical attribute/appearance stereotypes, b) gender-based psychological or personality trait stereotypes, c) occupational social role stereotypes and d) domestic social role stereotypes. (Consequently referred to as ‘physical’, ‘trait’, ‘occupational’ ‘domestic’ stereotypes respectively) and coded with reference to the coding schema reported in Table 9.1. Some subjects recorded no advantages or disadvantages to being male or female in medicine. A total of 123 (24.2%) female doctors recorded no advantages to being female, and a total of 83 (17.3%) male doctors recorded no advantages to being male in medicine. Conversely, 47 (9.2%) female doctors recorded no disadvantages to being female and 187 (37.6%) male doctors recorded no disadvantages to being male in medicine. These subjects were excluded from further analysis.

Comparisons between males and females reporting gender-based and social role-based stereotypes as advantageous or disadvantageous are represented graphically in Figure 9.1 and reported in Table 9.4.

Figure 9.1 : Total Physical, Trait, Occupational and Domestic Stereotypes for Males and Females

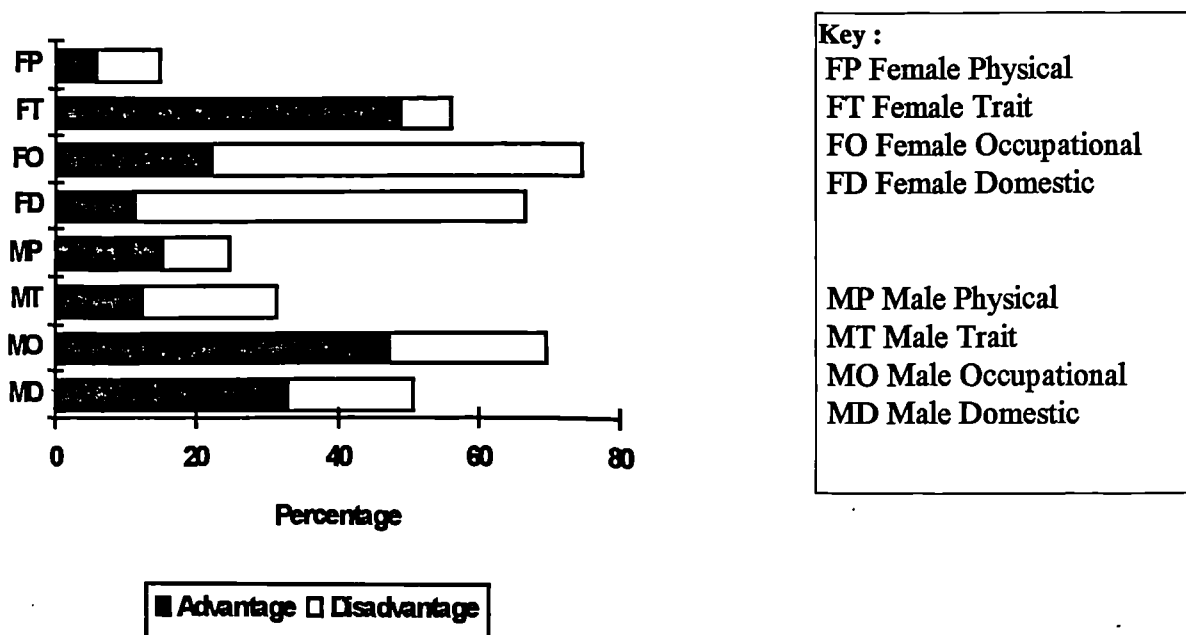


Table 9.4 : Frequency of Recording of Stereotypes for Males and Females

<i>1. ADVANTAGES OF BEING MALE / FEMALE</i>					
	<u>Females</u> <u>n(%)</u>	<u>Males</u> <u>n(%)</u>	χ^2	<u>df</u>	<u>p</u>
<i>Physical</i>					
YES	27 (5.8)	65 (15.5)	22.3	1	0.001
NO	439 (94.2)	355 (84.5)			
<i>Traits</i>					
YES	228 (48.9)	52 (12.4)	136.5	1	0.001
NO	238 (51.9)	368 (87.6)			
<i>Occupational</i>					
YES	104 (22.3)	198 (47.1)	60.6	1	0.001
NO	362 (77.7)	222 (52.9)			
<i>Domestic</i>					
YES	53 (11.4)	139 (33.1)	61.4	1	0.001
NO	413 (88.6)	281 (66.9)			
<i>2. DISADVANTAGES OF BEING MALE / FEMALE</i>					
<i>Physical</i>					
YES	44 (9.2)	38 (9.2)	0.01	1	n.s.
NO	435 (90.8)	373 (90.8)			
<i>Traits</i>					
YES	34 (7.1)	78 (19.0)	28.3	1	0.001
NO	445 (92.9)	333 (81.0)			
<i>Occupational</i>					
YES	250 (52.2)	92 (22.4)	83.1	1	0.001
NO	229 (47.8)	319 (77.6)			
<i>Domestic</i>					
YES	264 (55.1)	72 (17.5)	133.0	1	0.001
NO	215 (44.9)	339 (82.5)			

Domestic and *occupational* stereotypes were the most frequently recorded stereotypes by female doctors, and *occupational* stereotypes were most frequently recorded stereotype for male doctors. A significantly greater proportion of males than females reported their own gender *physical* stereotypes ($p < 0.001$), *occupational* stereotypes ($p < 0.001$) and *domestic* stereotypes ($p < 0.001$) as being

advantageous whereas a significantly greater proportion of females than males reported their own gender *traits* as being advantageous ($p < 0.001$).

There was no significant difference in the proportion of male and female doctors who reported (male or female) *physical* stereotypes as disadvantageous in medicine. However, a significantly greater proportion of male doctors reported their own gender *traits* ($p < 0.001$) as being disadvantageous, whereas a significantly greater proportion of female doctors reported their own gender *occupational* stereotypes ($p < 0.001$) and *domestic* stereotypes ($p < 0.001$) as disadvantageous in medicine.

Speciality Differences

In order to examine the perceived gender stereotyping of different specialities, reporting of gender based *traits* was compared for individuals in different speciality groups. Comparing GPs and consultants, there was no statistically significant difference in the proportion of female GPs or female consultants who reported female personality *traits* to be advantageous or disadvantageous in medicine. Similarly, there was no difference in the relative proportion of male GPs and male consultants reporting male personality *traits* to be advantageous or disadvantageous.

However, when comparisons were made between males and females within consultant speciality groups, it was found that a significantly greater proportion of female consultants in comparison with male consultants reported their own gender *traits* to be advantageous in five out of eight specialities. These were (females vs. males throughout) : Physicians, ($n=18$, 47.4% vs. $n=12$, 17.1%; $\chi^2 = 11.2$, $df=1$, $p < 0.001$); Surgeons, ($n=5$, 62.5% vs. $n=3$, 7.7%; $\chi^2 = 14.1$, $df=1$, $p < 0.001$); Anaesthetists ($n=13$, 43.3% vs. $n=1$ (8.3%) $\chi^2 = 4.7$, $df=1$, $p < 0.05$); Public Health/Community physicians ($n=12$, 80.0% vs. $n=2$ (14.3%; $\chi^2 = 12.5$, $df=1$, $p < 0.001$) and Obstetricians/Gynaecologists ($n=9$, 69.2% vs. $n=29$, 13.2%; $\chi^2 = 9.1$, $df=1$, $p < 0.01$). There was no statistically significant difference in the

proportion of male and female Laboratory Specialists, Psychiatrists, or Radiologists reporting gender *traits* to be advantageous. There were no statistically significant differences in the proportion of male and female consultants in different speciality types rating gender-based personality *traits* as disadvantageous. However, these results should perhaps be treated with caution since some cell sizes are smaller than recommended for chi square analysis.

Relationship between Demographic Characteristics and Stereotypes

A further series of chi square analyses were carried out separately for male and female doctors to determine the relationship between age, marital status and parental status and male or female stereotypes.

Age

For female doctors, those in the younger age group were significantly less likely to perceive female *traits* as advantageous (n=49, 37.4%) than those in the 36-50 age group (n=135, 53.8%) or those in the 51 and over age group (n=42, 51.9%) ($\chi^2 = 9.6$, df=2, p<0.01). A significantly greater proportion of female doctors in the 26-35 age group (n=23, 17.6%) reported *domestic* stereotypes as advantageous in medicine than females in the 36-50 age group (n=24, 9.6%) or females in the 51 and over age group (n=5, 6.2%). There were no other statistically significant differences between females in these age groups in terms of reporting of advantageous or disadvantageous stereotypes.

For male doctors, a greater proportion of those in the 26-35 age group reported male *traits* as disadvantageous in medicine (n=18, 28.6%) than males in the 36-50 age group (n=50, 20.6%), or males in the 51 and over age group (n=10, 9.6%) ($\chi^2 = 10.1$, df=2, p<0.01). Similarly, a greater proportion of male doctors in the 26-35 age group reported male *domestic* stereotypes as disadvantageous in medicine (n=18, 28.6%) than males in the 36-50 age group (n=49, 20.2%) or males in the 51 and over age group (n=5, 4.8%) ($\chi^2 = 18.1$, df=2, p<0.001).

Marital Status

Overall numbers of female doctors who perceived female *domestic* stereotypes to be an advantage in medicine were small. However, those who were married/cohabiting were significantly more likely than those who were single to report female *domestic* stereotypes as advantageous in medicine (n= 47, 13.4% vs. n=6, 5.2%) ($\chi^2 = 5.7$, df=1, p<0.05). A larger number of female doctors perceived the female domestic role to be disadvantageous in medicine. Again, those who were married/cohabiting were significantly more likely than those who were single to report female *domestic* stereotypes as being disadvantageous in medicine (n= 216, 60.0% vs. n=48, 40.3%) ($\chi^2 = 14.0$, df=1, p<0.001). Female doctors who were single were also significantly more likely to report female *occupational* stereotypes as disadvantageous than those who were married/cohabiting (n=73, 61.3%, vs. n=177, 49.2%) ($\chi^2 = 5.3$, df=1, p<0.05).

Only one statistically significant difference emerged between male doctors who were married/cohabiting compared with those who were single in terms of perceived advantages or disadvantages of being male in medicine. One single male doctor (3.6%) reported the male *occupational* stereotype to be a disadvantage in medicine in comparison with 91 (23.8%) males who were married/cohabiting ($\chi^2 = 6.1$, df=1, p<0.05).

Parental Status

As one might expect, parental status was significantly related to the reporting of *domestic* stereotypes for both male and female doctors, but not to reporting of other categories of stereotype. For females, those who had children were significantly more likely to report *domestic* stereotypes as advantageous in medicine (n=47, 15.6%) than those without children (n=6, 3.6%) ($\chi^2 = 15.2$, df=1, p<0.001). Similarly, females who had children were significantly more likely to report *domestic* stereotypes as disadvantageous in medicine (n=187, 60.9%) than those without children (n=77, 44.8%) ($\chi^2 = 11.6$, df=1, p<0.001). It should be

noted that far greater numbers of females, both with and without children, reported *domestic* stereotypes as being disadvantageous than advantageous in medicine.

For males, there were no significant differences between those with children and those without children in terms of reporting of any type of advantageous or disadvantageous stereotype.

Relationship Between Advantageous and Disadvantageous Stereotypes

Spearman correlations were carried out separately for males and females to investigate the relationship between the four components of both 'advantageous' and 'disadvantageous' stereotypes, as shown in Table 9.5. Overall, correlations were weak for both males and females. Female doctors who reported female *traits* as advantageous were significantly less likely to report advantageous *occupational* stereotypes. Females who reported *domestic* stereotypes as disadvantageous were significantly less likely to report female *physical, trait, and occupational* stereotypes as disadvantageous. There was no pattern of reporting of stereotype components as both advantageous and disadvantageous. Males reporting male *occupational* stereotypes as advantageous were significantly less likely to report male *physical, trait and domestic* stereotypes as advantageous. However there was a stronger pattern of association between reporting of *physical, trait, and domestic* stereotypes as both advantageous and disadvantageous for male respondents.

Table 9.5 : Spearman Correlations showing Relationship between Stereotype Components for Male and Female Doctors

<u>Stereotypes</u>	<u>FEMALES</u>							
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
<u>ADVANTAGES</u>								
1 Physical	1.0							
2 Traits	-.01	1.0						
3 Occupational	-.07	-.29***	1.0					
4 Domestic	-.09	-.07	-.01	1.0				
<u>DISADVANTAGES</u>								
5 Physical	.02	.06	.02	.05	1.0			
6 Traits	-.04	0.2	-.01	-.02	.05	1.0		
7 Occupational	-.04	-.10*	.03	-.01	-.01	-.11**	1.0	
8 Domestic	-.07	.04	.07	.08	-.09*	-.21***	-.22***	1.0
	<u>MALES</u>							
<u>ADVANTAGES</u>								
1 Physical	1.0							
2 Traits	.06	1.0						
3 Occupational	-.10*	-.09*	1.0					
4 Domestic	.01	-.03	-.17***	1.0				
<u>DISADVANTAGES</u>								
5 Physical	.22**	.07	.09*	-.01	1.0			
6 Traits	.07	.20***	.09*	.07	-.03	1.0		
7 Occupational	.08	-.03	-.01	-.01	.03	-.13**	1.0	
8 Domestic	-.04	-.09*	.08	.11*	-.04	.01	.06	1.0

Key : * p<0.05; ** p<0.01; *** p<0.001.

Relationship Between Stereotypes and Levels of Stress and Satisfaction

Pearson correlations between categories of stereotype and levels of occupational stress, domestic stress, job satisfaction, satisfaction with pay, and satisfaction with career are noted in Table 9.6.

For female doctors, there are few significant relationships between stereotypes and levels of stress and satisfaction, however recording of reported *domestic* stereotypes as advantageous was significantly associated with lowered occupational stress. A more consistent pattern emerged for male doctors, with reporting of male *occupational* and *domestic* stereotypes as disadvantageous being significantly associated with increased occupational stress, and reduced

satisfaction with job, pay and career, although it should be noted that the magnitude of these correlations was rather small.

Table 9.6 : Pearson Correlations Between Stereotypes and Levels of Stress and Satisfaction for Male and Female Doctors

	<u>STEREOTYPES : ADVANTAGES AND DISADVANTAGES</u>							
	<u>FEMALES</u>							
Stress/Satisfaction	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>
1 Stress	.07	.05	-.07	-.20**	.07	.09	.05	.01
2 Home Stress	-.05	-.01	.04	.05	.01	.04	.04	.04
3 Job Satisfaction	.09*	.07	.02	.03	-.07	-.05	-.03	.07
4 Career Satisfaction	.06	-.02	.02	.04	-.10*	-.04	-.01	.01
5 Pay Satisfaction	.07	.05	-.05	.04	-.10*	.05	.01	.04
	<u>MALES</u>							
1 Stress	.08	-.01	-.04	-.07	.08	.09	.15**	.11*
2 Home Stress	.03	-.02	.11*	.07	-.09	-.10*	-.12*	-.13**
3 Job Satisfaction	-.01	.01	.08	.06	-.12*	-.06	-.09	-.16**
4 Career Satisfaction	-.06	.03	.02	.10*	-.11*	-.01	-.11*	-.14**
5 Pay Satisfaction	.01	-.06	.08	.05	.03	.09	.11*	.15**

Key : * p<0.05; ** p<0.01; *** p<0.001.

Stereotypes : Advantages 1 Physical 2 Traits 3 Occupational 4 Domestic
Disadvantages 5 Physical 6 Traits 7 Occupational 8 Domestic

9.7 Discussion

Given the traditional perception of the medical profession as being stereotypically male, it was unsurprising that a higher proportion of females reported negative (disadvantageous) gender stereotypes and a higher proportion of males reported positive (advantageous) gender stereotypes in this study. Several respondents noted the extent of such stereotyped attitudes, for example one male consultant stated : *“there’s a bias throughout the NHS, particularly in hospital medicine in favour of males - and an awareness of the effect this bias has on the whole atmosphere in medicine”*. A female consultant also stated : *“ an atmosphere of*

male superiority permeates the hospital". Similarly in general practice, one female GP stated : "*females are in a minority and male doctors tend to be arrogant and chauvinist and unsatisfactory to work with*", and a male GP noted : "*male doctors are taken more seriously by peers and patients*".

When components of these stereotyped attitudes were investigated, interesting differences in the perceptions of male and female doctors emerged in terms of more enduring stereotypes of physical characteristics of males and females, and personality characteristics, or 'trait' based gender differences, and differences with respect to occupational or domestic social role characteristics.

The stereotype components adopted for the present study were based on those used by Deaux and Lewis (1984) (listed on pages 212-213) and it was possible to adhere fairly closely to these categories, although as noted by Deaux and Lewis, there was some overlap between categories. For both 'trait' and 'domestic' categories for both males and females, allocations were closely comparable, with facets reported in the present study bearing a strong similarity to those used by Deaux and Lewis, e.g. females' emotionality, and perception of role identity in relation to others; males' competitiveness and breadwinner status. Whereas Deaux and Lewis adopted different occupations to be rated regarding 'masculinity' and 'femininity', the present study considered types of medical speciality.

Few males and females noted physical gender attributes as either advantageous or disadvantageous. Males were more likely to report male physical attributes as an advantage, mainly in terms of their ability to resist aggression from patients, but also more generally in terms of being stronger, having better overall physical health and being more able to cope with stress.

Female traits were more frequently reported as advantageous than disadvantageous by female doctors. So for example, empathy, emotionality and a practical approach to medicine were seen to be positive female characteristics. One female GP noted : "*women are better listeners and have more empathy with*

patients, they understand their family and practical difficulties”; a female consultant stated “women are better tuned to the emotional aspects of illness”; another female consultant noted that “bringing a practical approach to many situations, without an ego problem” was a positive female trait. However, disadvantages of the same female traits were also noted by two female GPs: “people expect women to be understanding, which means you get all the difficult patients” ; “people tend to talk to me about emotional problems which is very draining”, and two female consultants noted : “females have a tendency to be less self-confident than males”, and “emotional responses are frowned upon”.

A larger proportion of male doctors perceived male traits to be disadvantageous than advantageous. Traits such as a tendency not to express emotion, or show weakness were seen as disadvantageous, for example, a male GP stated : “(men are) less able to admit to stress or weakness easily”, one male consultant noted: “you are not expected to crumble under stress”; other male consultants said “(males have) a lower sensitivity to people and the needs of others”; and “a tendency to avoid emotional issues”. Personality traits which were seen as advantageous for males tended to emphasise ability to cope or being in control, for example a male GP noted : “I feel I can cope with a potentially explosive situation” (male GP) or “on the whole, men are more naturally decisive” (male consultant).

Unfortunately the present study was not able to systematically examine subjects’ perceptions of the opposite gender’s role stereotypes, although such information was often inferred in responses, for example : “perhaps men less than women are expected to possess bottomless compassion” (male GP) or “ a soft nature and a soft voice means you get ridden over at times - many people look on a female doctor as something inferior to a male doctor” (female GP).

It has been suggested in previous studies that the occupational role of female and male doctors varies according to their medical speciality. In general practice for

example females tend to see more female patients, and deal with more gynaecological and psychosocial problems (Cooke and Ronalds 1985a, 1985b). Similarly some consultant specialities (e.g. psychiatry, paediatrics) may be seen as requiring more female characteristics of empathy or emotionality (Quadagno 1976). The present study found no statistically significant difference in the proportion of female GPs and female consultants, or male GPs and male consultants reporting their own gender personality traits as advantageous or disadvantageous. However, within five out of eight consultant speciality types in the study, a greater proportion of females than males reported their own gender traits to be advantageous, including females in the more 'male' specialities of physicians, surgeons and anaesthetists. In psychiatry, a speciality perceived as 'female' (Quadagno 1976) and including a relatively high proportion of female doctors (Allen 1988; Elston 1991), there was no significant difference in the present study between the proportion of males and females reporting their own gender traits as advantageous or disadvantageous.

As anticipated, male occupational role stereotypes were perceived as significantly more advantageous overall than female occupational role stereotypes. For example, the stereotype of the medical profession as traditionally male, with easier career progress for male doctors was frequently reported. Male consultants noted: *"the traditional male figure as doctor makes it easier for the doctor-patient relationship"*, and *"by and large, life is easier career-wise, as it is easier to progress up the ladder"*. One male GP noted: *"staff prefer to get males to sort out their problems"*. Disadvantages of the male occupational role in terms of being held ultimately responsible, and also in terms of a heavier, more demanding workload than female colleagues were noted by male GPs: *"you have to carry the can"*; *"you have to cope with extra work to cover for pregnant partners"*; *"expected to cope with unpleasant tasks, anything administrative"*. Lack of informal social support for male doctors was also noted by a male consultant *"poor support networks - my female colleagues all meet regularly out of work for support"*.

Some female doctors expressed resentment against their 'female' occupational role, for example, one female GP noted : "*you have to do all the 'wifely' tasks at work*". Others remarked "*(I am) swamped by unhappy depressed females*" ; "*I attract more than my fair share of 'heartsinks'*", and one female consultant stated: "*senior males want a handmaiden*". Instances of prejudice or discrimination were also noted by female consultants, for example : "*women need to be brighter than men to gain promotion in medicine*"; "*can be isolated - not 'one of the boys', especially at senior level*"; "*men get the breaks - women are still 'playing' at medicine*", and female GPs : "*perceived as 'not a proper doctor' by male GPs*"; "*you need to be at least as good, or even better than men*".

Male domestic role stereotypes, for example, having domestic support and freedom from domestic responsibility were more frequently perceived by males as advantageous than disadvantageous in medicine. For example, male GPs noted : "*being able to separate work and family very easily*", and "*freedom from responsibilities for childcare*" were advantageous. Some male doctors however noted the disadvantages in the male domestic role stereotype in terms of lack of participation in family life, and a lack of freedom in their overall career : "*part-time work (for males) is not socially acceptable*" ; "*home life is not supposed to affect you*" (both male GPs), and ; "*pressure of being the breadwinner*" ; "*(my) wish to be involved in bringing up my children, but not enough part-time work*" (male consultants). This view was also expressed by females, including a female consultant : "*men are limited too - they can seldom consider part-time work in our present culture*" ; and a female GP: "*it is easier (for females) to negotiate reduced hours - we are not expected to work as long as men - this is not necessarily a good thing*" .

The pressures of combining domestic and occupational roles were most frequently noted as negative role stereotypes for female GPs, e.g. : "*constant guilt feelings about neglecting family*" ; "*the expense of flexible childcare involved*" ; "*pressure on you not to take time off work for pregnancy or children's illness*"

and consultants “viewed as a second-rate parent and a second-rate doctor - you can’t win” ; “very difficult to co-ordinate jobs for medical couples - it increases stress for men and women”; “there are not enough female consultants in most specialities, and women who reach this level often sacrifice personal relationships - i.e. don’t marry and have children”. However some advantages of the female domestic role were also reported : “having the freedom to quit on principle”; “women cope better in the new NHS - they’re used to doing 2 or 3 jobs at once” (female consultants).

The methodology employed in this study can be criticised on several counts. Firstly, the stereotype components identified were by no means exhaustive, and it was not possible to accurately delineate links between specific stable gender components and more flexible gender-role components using this type of open-ended data. There are many more potential influences on formation of stereotypical views than could be identified or accounted for in this study. For example, racial and cultural background, family background characteristics, socio-economic status, political views and attitudinal variables may be particularly relevant in accounting for formation of stereotyped views in doctors. Female doctors have been shown to hold more liberal and egalitarian views generally than their male counterparts which may affect their perceptions of gender roles (Heins et al 1979), and family background has been shown to have particular influence on the decision to follow a medical career, and choice of speciality (Paris and Frank 1983; Allen 1988). All of these aspects merit closer investigation in analysis of doctors’ attitudes.

Use of open-ended research methodology in the present study also meant that responses had to be categorised as either ‘recorded’ or ‘not recorded’ whereas relative or probabilistic judgements as to the degree of stereotyping would have been preferable (McCauley et al. 1980; Deaux 1984). However, the use of more open ended questioning as opposed to a fixed response format has the advantage of allowing for a wider range of attitudes to be assessed and avoids some of the

methodological difficulties in response set bias found in fixed-choice questionnaire items.

Although same-sex and opposite-sex stereotype judgements have been compared (Clavan and Robak 1978; Deaux and Lewis 1984; Shapiro et al. 1983), other characteristics of the subject, such as age, socio-economic status, marital and parental status, have not regularly been addressed in previous studies, which have often been carried out in heterogeneous student populations. One study which investigated male and female physicians' sex-typing of specialities in subjects with a wide age range (Quadagno 1976) found that stereotypical images were more likely to be applied by younger physicians, particularly younger males. In the present study, demographic characteristics influenced the frequency of reporting of categories of role stereotypes for both male and female doctors. Younger female doctors were less likely to perceive female traits as advantageous and younger male doctors were more likely to perceive male traits as disadvantageous in medicine, suggesting there may have been a shift in perceptions of these stereotypes in more recent years. Similarly, females in the younger age group were more likely to report female domestic role stereotypes as advantageous in medicine than females in older age groups, and males in the younger age group were more likely to report male domestic role stereotypes as disadvantageous than males in the older age groups. Marital status and parental status were also related to reporting of occupational role and domestic role stereotypes.

Reporting of both occupational and domestic role stereotypes as disadvantageous was also correlated with increased occupational stress and lowered job satisfaction for male doctors, but not for females in this study. A significant correlation does not confirm causality, and the fact that this association may be a result of these two measures addressing a similar response set such as negative affect, should be taken into account. However, the above results do suggest that male doctors, and particularly those in younger age groups may be dissatisfied with the current balance in allocation of time and energy between occupational and domestic roles,

and that the segregation of these roles along traditional gender lines is perceived as disadvantageous by many male, as well as female doctors. This may be a reflection of a reduced sense of the 'vocational' aspect of medicine as a career demanding 24 hour commitment but offering intrinsic clinical and external power, control and status as rewards. It may also be linked to changes in the ethos of the health service, whereby 'practitioner' or 'bureaucratised' status for employees has led to a reduced sense of the need for commitment at the expense of personal life. Alternatively there may have been a reduction in the polarisation of social roles for males and females. Male doctors may indeed have increased their own expectations in terms of involvement in family life, expectations which may have been reinforced by an awareness of the potential for both male and female doctors to pursue medical careers and maintain a high degree of participation in family life.

CHAPTER 10:

**Occupational Stress and Family Life :
Comparisons of Male and Female Doctors.**

10.1 Summary

One area of occupational stress which has been shown to have an impact on medical professionals, but which has not been previously researched in detail for this occupational group, is the interface between work and home life. The concept of what constitutes the 'home/work interface' has often not been clearly defined, however theoretical models have been recently developed which differentiate between the impact of work demands on home life, and the impact of domestic demands on work. Other important concepts are those involving multiple role conflicts or demands, but the nature of such demands have generally been investigated for females only.

In order to address these issues, the present study aimed to investigate the relationship between features of both occupational and domestic roles and their relationship to occupational stress and job satisfaction, and to determine whether this relationship is affected gender, and by type of medical speciality (GP or consultant). With reference to the theory of asymmetric permeability of occupational and domestic roles, the relative strength of relationship between work to home (WH) stress in comparison with home to work (HW) stress, and how this relationship varies by domestic role complexity, gender and medical speciality was also investigated. The sample comprised all female and male GPs and consultants who participated in the questionnaire survey of occupational stress and job satisfaction.

Results confirmed the pattern of asymmetry of work and home roles found in previous studies, suggesting that work to home stress had a greater impact than home to work stress. No significant gender difference in the pattern of asymmetry was found. However, increased domestic role complexity was related to reduced occupational working hours and increased domestic work hours for female but not for male doctors. Both male and female parents of young children under 5 recorded the highest scores in terms of work to home stress. GPs generally recorded greater stress in the home/work interface than consultants.

10.2 Introduction

Although work and home life are often studied in isolation from one another, it is acknowledged the relationship between these domains is an important source of stress. The relationship between work and home life is conceived as being bi-directional, with satisfactions and stressors experienced at work having an impact on satisfactions and stressors in home life, and vice versa.

Different approaches to the study of the interface between work and home life have been discussed in Chapter 2 (pages 38-39). The first approach suggests that multiple role demands of work and home domains are additive, with combined overload leading to increased stress, strain and illness. The positive side of the additivity theory is that multiple occupational and domestic roles complement one another, resulting in enhanced well-being (Thoits 1983; Cooke and Rousseau 1984; Verbrugge 1986). Underlying this approach is the concept of 'spillover' of stable traits in the individual such as personality, or skill level, which influence experience in each domain (Near et al. 1980). In this sense both negative outcomes (e.g. occupational and domestic stress) and positive outcomes of multiple roles (e.g. increased job satisfaction and overall 'life satisfaction') are found to be positively correlated. Greenhaus and Parasuraman (1986) take the concept of additivity a step further, suggesting that work and home conflicts are interactive, with the greatest stress arising in situations of simultaneous role pressures from both home and work domains.

The relationship between home and work has also been seen as 'compensatory', or negatively associated, whereby problems or deficiencies in one domain are compensated for in the other. This perspective arose as a counter to the post-war, male-based view of home as a haven from the stressors of the outside world, and the perception of females' participation in work outside the home as being detrimental to the structure of family life, and emphasised the concept of female domestic roles in isolation as being intrinsically unsatisfying or unfulfilling, and associated with depression and mental ill-health (Brown and Harris 1978; Haw 1982). This perspective has been adopted in many studies of the relationship between home and work, carried out in mainly female

subjects, with the weight of evidence suggesting that involvement in occupational roles offers opportunities for self-growth or fulfilment which are not found in a domestic environment, associating occupational roles with greater mental well-being (Haw 1982; Kandel et al. 1985; Baruch et al. 1987; Johnson 1989; Nelson and Quick 1990; Kopp and Ruzicka 1993; Campbell et al. 1994). There are however many individual factors such as personality, positive or negative affectivity, and mental or physical health status, or characteristics of the home and work environment which may affect experience of stress and strains. Additional social factors such as the status level of the occupation, socio-economic and financial status, degree of work and family responsibility, and family variables such as number and age of children and degree of support from spouse or others, may also affect occupational stress or satisfaction, and are often not accounted for in studies.

Pleck (1977) first developed the concept of asymmetry in the relative impact of domestic and work roles, whereby the demands of work roles are seen as having a greater influence on home life than vice versa. Subsequent studies have developed theoretical models of work-family conflict which suggest that work interferes with family life to a greater degree than family life interferes with work, although evidence is by no means conclusive (Sekaran 1983; Kandel et al. 1985; Hall and Richter 1988; Frone et al. 1992a; 1992b; 1994; Jones and Fletcher 1996).

A further premise is that there may be a gender difference in the both the degree and direction of permeability of domestic and work roles, whereby work demands are expected to intrude to a greater extent into home life for males than females, and family demands intrude into work to a greater extent for females than for males. Two studies testing this hypothesis (Hall and Richter 1988; Frone et al. 1992b) have found no significant gender differences in the direction of permeability, although a third study investigating 'crossover' of overload and conflict in a study of 166 married couples found the opposite relationship, suggesting that home to work stress in terms of 'overload' and arguments at home, had a greater impact on work overloads and arguments for males than for females (Bolger et al. 1989).

It is therefore of interest to consider gender differences in the permeability of work and home roles, since males and females may have different degrees of commitment, investment or involvement within occupational or domestic roles. With responsibilities as the main breadwinner, males have traditionally been required to allow work to take precedence over domestic demands, whereas females have had primary domestic responsibility with family demands taking precedence over work (Nadelson et al. 1979; Pleck 1985; Haw 1982). Although traditional family structures and role boundaries may be changing as more females enter employment, and it becomes socially acceptable or even desirable for males to undertake more domestic work, it seems that females continue to retain major responsibility for family life (Pleck 1985; LaRossa 1988). It is also suggested that females tend to protect their spouse and family from home-related stressors (Kessler and McCrae 1982; Bolger et al. 1989). In 'dual career' relationships where both partners work, there may be some 'contagion' or accumulation of stress between partners, or conversely they may be able to offer mutual support. However, one partner, usually the female, adapts career progress for dual career relationships to function successfully (Hiller and Philliber 1982, Yandoli 1989; Karambayya 1992).

Individual differences in demographic and family circumstances are frequently not taken account of in studies of home/work stress. Marriage and parenthood have been shown to be linked with increased role conflict and overload for women, with the role of parent perceived as the most stressful (Barnett and Baruch 1985) but few studies have examined the impact of home life on home/work stress for males at different life or career stages. The change in role complexity from the state of being single, to married/cohabiting to parenthood may be seen as increasingly stressful in terms of the impact on the home/work boundary (Cooke and Rousseau 1984), and may coincide with a stage of career development for both males and females where job demands are also maximised to create additional role stress (Bartoleme and Evans 1979). Parents of very young children have been shown to experience greater home/work stress than non-parents (Lewis and Cooper 1987), and parenthood may also affect career progress by necessitating career breaks, or reduction in work hours. In previous studies, females, but not males, with young children have been shown to reduce work hours (Weisman and

Teitelbaum 1987; Grant et al. 1990). The spouse or partner's contribution to housework or childcare may become a more important issue when domestic demands increase due to the care needs of young children, although Lewis and Cooper (1987) suggest that perceived equity of domestic roles may be a more important factor in home/work conflict than the actual workload contribution of each partner.

As previously noted (Chapter 3, page 71), characteristics of medical work may make doctors especially vulnerable to stress between work and home. A heavy workload, excess paperwork and administration, time pressure, and taking work home may leave less time and energy for family interaction or leisure. The emotional demands of medical work may lead to 'burnout', emotional exhaustion or withdrawal (Kirwan and Armstrong 1995; Deary et al. 1996). There is also concern that some patients have unrealistic expectations of medical professionals, and the type of demands patients make may vary between primary care and secondary care specialities. Spouses and families may also be affected by the doctors' occupational stress (Chapter 3, page 72), and for younger doctors in particular, the establishment and maintenance of personal relationships may suffer.

Many previous studies have linked home/work stress with job dissatisfaction and psychological ill-health in doctors (e.g. Nadelson et al. 1979, Firth-Cozens 1987; Rankin et al. 1987; Cooper et al. 1989; Sutherland and Cooper 1992). However, most have discussed home/work stress as a problem for female doctors only, and have not examined the question of asymmetric permeability of work and home roles.

Since, medicine is a high status, highly paid occupation, with potentially high levels of job satisfaction, it could be argued that doctors have greater resources than most for coping with problems in the home/work interface. Families can generally afford domestic help and high quality childcare, making it easier for female doctors to participate fully in their careers than for females in lower status occupations. Fewer differences between male and female doctors might therefore be expected in terms of home/work stress than in other lower status, less well paid occupations.

Aims

The aims of the present study are to investigate stress due to the interface between home and work, comparing male and female doctors working in general practice and in consultant specialities. Individuals at different life stages with increasing number and complexity of domestic roles are compared in terms of workload, occupational stress, job satisfaction and domestic stressors, and increased complexity of domestic roles is hypothesised to be related to increased stress in the home/work interface for male and female doctors. Firstly, the relationship between complexity of domestic roles and occupational and domestic workload in terms of hours worked, time on call and hours spent on domestic work is investigated, the direction of this relationship being expected to vary for male and female doctors, since previous research has suggested that females are more likely than males to adapt working hours to family demands.

Secondly, the relationship between domestic role complexity and occupational stress and job satisfaction, and the role of gender and medical speciality as moderators of this relationship is investigated. Thirdly, the relative strength of relationship between work to home (WH) stress in comparison with home to work (HW) stress is assessed to investigate the theory of asymmetric permeability. The suggestion in previous studies that males experience greater work to home stress, whereas females experience greater home to work stress is investigated, comparing males and females in general practice and consultant specialities. The relationship of increasing role complexity to WH and HW stress is also investigated.

10.3 Method and Subjects

The questionnaire methodology and selection of the sample for the study has been described in Chapter 5 (pages 111-113). Subjects for this study comprised all 986 male and female doctors who responded to the questionnaire survey.

10.4 Measures

The following measures were utilised :

- i) Demographic Information : Details of sex, speciality (GP or consultant), age, marital and parental status, number and age of children, and job characteristics (GP

practice type, practice size; consultant speciality) were obtained. Age was recorded in nine five year age bands, from 26-30 to over 65. Mean age was also calculated. Marital status was recorded as single; separated, widowed or divorced (SWD); or married /cohabiting.

Role Complexity

A variable was constructed to reflect increasing domestic 'role complexity' as follows : Group 1) Single, (including separated, widowed, divorced) without children; Group 2) Married /cohabiting, without children; Group 3) Married /cohabiting with children, youngest child 5 -18 years; Group 4) Married /cohabiting, youngest child under 5 years. A similar coding scheme has been used in other studies to reflect increasing domestic demands or role complexity (Lewis and Cooper 1987; Frone et al. 1992b ; Kopp and Ruzicka 1993). Individuals in the original sample who were single, separated/widowed /divorced with children under 18 (n = 45), or whose youngest child was over 18 (n=159) were not included in this analysis.

ii.) Workload : Subjects were asked to note the average number of hours worked per week, including time spent on call during the day. Time spent on call for nights/evenings was recorded separately, on a scale where 1 = 'none or only occasional' and 11 = 'continuous', with higher scores therefore representing more frequent on call duties. Domestic workload was assessed by asking how many hours per day were usually spent on housework and/or childcare.

iii.) Occupational Stress was assessed by scales taken from the Occupational Stress Indicator (OSI) (Cooper et al. 1988). The 'Sources of Pressure' Scale comprises 61 items and six scales. A description of these scales, details of scoring, and a discussion of their validity and reliability can be found in Chapter 5, pages 117-120. Reliability values for each scale for the sample in the present study are reported in Chapter 6, Table 6.4a (Page 142).

iv.) Home / Work Stress: Stressfulness of the home/work interface was assessed by the OSI 'Home/work interface scale'. This scale originally comprised 11 items, however in the present study, one item 'not having enough work to do' received an exceptionally low mean score for the overall sample (mean 1.4, SD 0.7) and was found not to

correlate significantly with the scale total ($r=.02$). This item was therefore not included in subsequent analysis for this study. The remaining ten items were subjected to a principal components analysis, and two factors with eigenvalues >1.0 were identified. Five items (factor loadings = 0.77 to 0.61) representing 'work to home' stress (WH) (38% of variance) and five items (factor loadings = 0.76 to 0.59) representing 'home to work' stress (HW) (14% of variance) were identified. The subscale was divided into two components on this basis. WH items are : a) Taking my work home; b) not being able to 'switch off' at home; c) demands work makes on my relationship with my spouse/children; d) demands work makes on my private/social life; e) pursuing a career at the expense of home life. HW items are : f) My spouse's attitude towards my job and career; g) absence of emotional support from others outside work; h) lack of practical support from others outside work; i) home life with a partner who is also pursuing a career; j) absence of stability or dependability in home life. Three of the above items, c), f), and i) were not applicable to individuals who were single or separated/widowed/divorced. This group was therefore excluded from some analyses, improving the reliability of this subscale (re-calculated $\alpha = .83$).

v.) Job Satisfaction was assessed using the scale "How You Feel About Your Job" also taken from the OSI. This 22 item job satisfaction scale comprises five subscales. These scales, together with a description of their scoring, validity and reliability are discussed in Chapter 5, pages 120-122. Reliability values for each scale and the scale total are given in Chapter 6, Table 6.5a (page 144).

vi.) Home Stress was assessed by the question, 'how stressful is your home life?', rated on a 5 point scale where 1 = 'not at all stressful' and 5 = 'extremely stressful'.

vii.) Domestic Conflict was assessed by the dichotomous item 'does your job cause conflict with your spouse/partner?' (no = 1, yes =2).

viii.) Domestic Satisfaction was assessed by a two item scale constructed for the study ($\alpha = .86$), assessing satisfaction with spouse's contribution to housework and childcare, each item scored on 5 points where 1 = 'not at all satisfied' and 5 = 'extremely satisfied' (range = 2 -10).

10.5 Analysis

For the whole sample, males and females were compared in terms of age, marital status and parental status using t-tests or chi square analysis. Subsequent analyses were carried out with a sub-sample of subjects divided into 4 domestic role groupings representing increased complexity as described above. Since age was found to be significantly correlated with each of the dependent variables apart from job satisfaction, factorial analysis of covariance (ANCOVA) was carried out with age as the covariate, and 'role complexity' categories, sex, and speciality as main effects. Interaction effects of role complexity, sex and speciality were also calculated, and those which were statistically significant are reported. Dependent variables were; hours worked, time on call, and domestic workload; occupational stress subscales, total job satisfaction, factors representing WH, and HW stress, and overall home stress. Parents with youngest child aged 5-18 were compared with parents of children with youngest child aged under 5 in terms of domestic satisfaction. Since 'role complexity' groups were of unequal size, an unweighted means approach was adopted in the analysis of variance (Tabachnik and Fidell 1989; MacDonald 1991). Hierarchical regression analyses were carried out separately for males and females in the 'role complexity' sample with the total home/work interface scale score as the dependent variable, representing a total of WH and HW stress. Demographic variables, workload variables, the remaining occupational stress scales, job satisfaction and home stress, and conflict were entered in steps to determine their relative impact on home/work stress.

10.6 Results

The final sample comprised 283 female GPs, 224 female consultants, 264 male GPs and 215 male consultants. Approximately a quarter (26%) of GPs in the sample worked in rural practices, and half (49%) in 'urban' or 'city centre' practices, the rest being classified as 'suburban' or 'mixed'. Mean individual Health Board list size was 1544, compared with 1569 for Scotland overall (ISD 1992a). Because the samples were selected to obtain approximately equal numbers of male and female consultants, and some types of speciality show a preponderance of males (e.g. surgical specialities) or

females (e.g. psychiatry), male and female consultants in the sample were not matched by speciality, although most types of consultant speciality were represented in the study.

Table 10.1 illustrates demographic characteristics of the female and male doctors in the study. Males in the sample were significantly older than females ($p < 0.001$). Males were also significantly more likely to be married/cohabiting ($p < 0.001$), to have children ($p < 0.001$) and had more children overall ($p < 0.001$) than females.

Table 10.1 : Characteristics of the Study Sample (N=986)

	<i>Females (N=507)</i>	<i>Males (N=479)</i>	<i>Comparisons</i>
<u>Mean Age Group (SD)</u> (Mean age)	3.7 (1.7) (41.6)	4.4 (1.7) (44.9)	df = 979, t = 5.90***
<u>Marital Status</u>	<u>No (%)</u>	<u>No (%)</u>	
Single, SWD	128 (25.2)	33 (6.8)	df = 1, $\chi^2 = 60.75$ ***
Married/Cohab	379 (74.8)	446 (93.2)	
<u>Children</u>			
Yes	326 (64.3)	419 (87.8)	df = 1, $\chi^2 = 74.06$ ***
No	181 (35.7)	58 (12.2)	
<u>Mean (SD) Number of Children</u>	2.18 (0.9)	2.58 (0.9)	df=742, t=5.90***

*** $p < 0.001$

Workload

The relationship between the four 'role complexity' groups in terms of 'workload' variables, hours worked, time on call, and domestic workload are illustrated graphically in Figures 10.1, 10.2 and 10.3. Group means and results of ANCOVA are given in Table 10.2.

Analysis of variance shows that the covariate age was significantly related to hours worked, and time spent on call, but not to domestic workload. After adjusting for age, hours worked were shown to vary significantly by role complexity, sex and speciality,

with a significant interaction effect for roles and sex, suggesting that sex moderates the impact of role complexity on hours worked. Examination of group means, illustrated graphically in Figure 10.1, reveals that female doctors with youngest child under 18 spend fewer hours at work than those who do not have children, whereas this is not the case for male doctors. Comparing parents with youngest child under 5 with parents with youngest child 5-18, female GPs in the former group are shown to work the fewest hours, whereas female consultants maintained a similar level of work hours. Although male consultants with youngest child under 5 worked longer hours than those without children or those with youngest child aged 5 -18, this was not the case for male GPs.

Figure 10.1 : Graph of Occupational Work Hours for Increasing Role Complexity

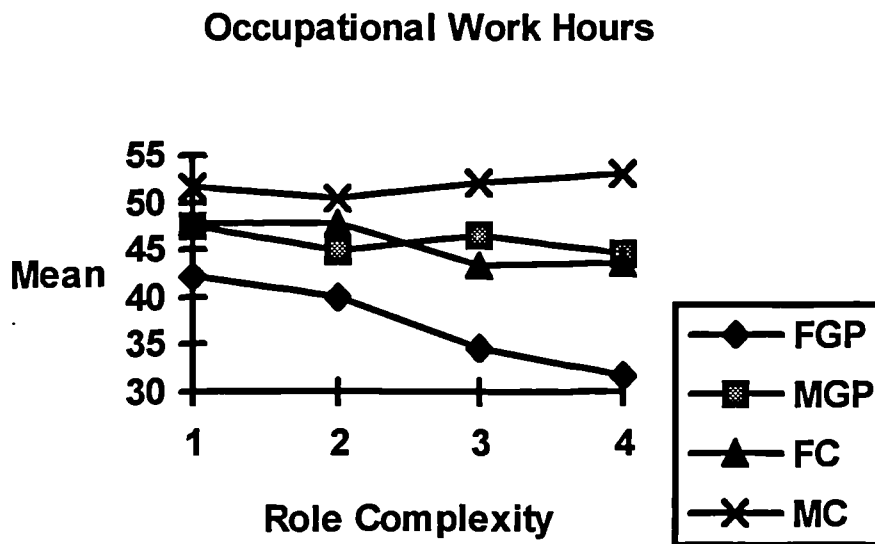


Figure 10.2 : Graph of Time On Call for Increasing Role Complexity

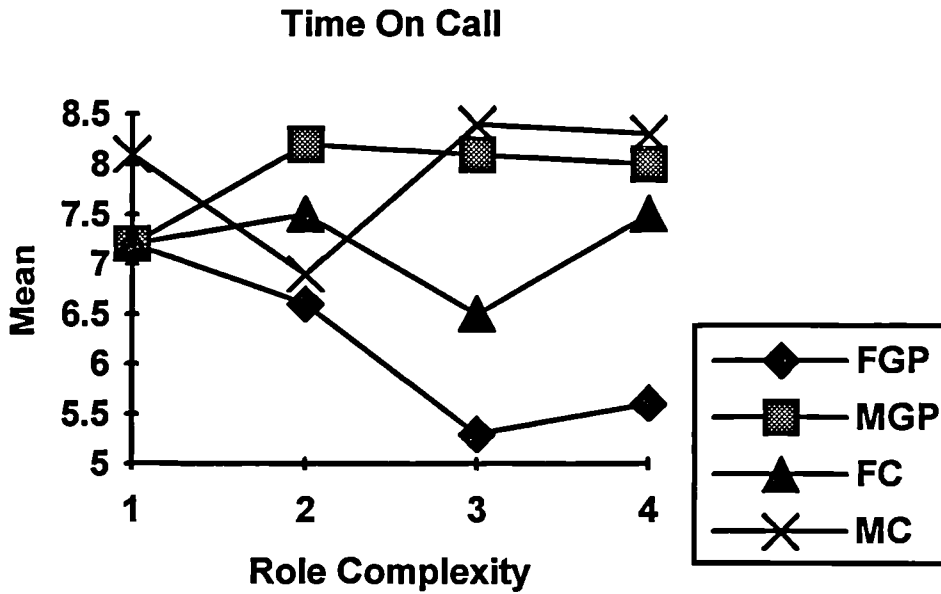


Figure 10.3 : Graph of Domestic Work Hours for Increasing Role Complexity

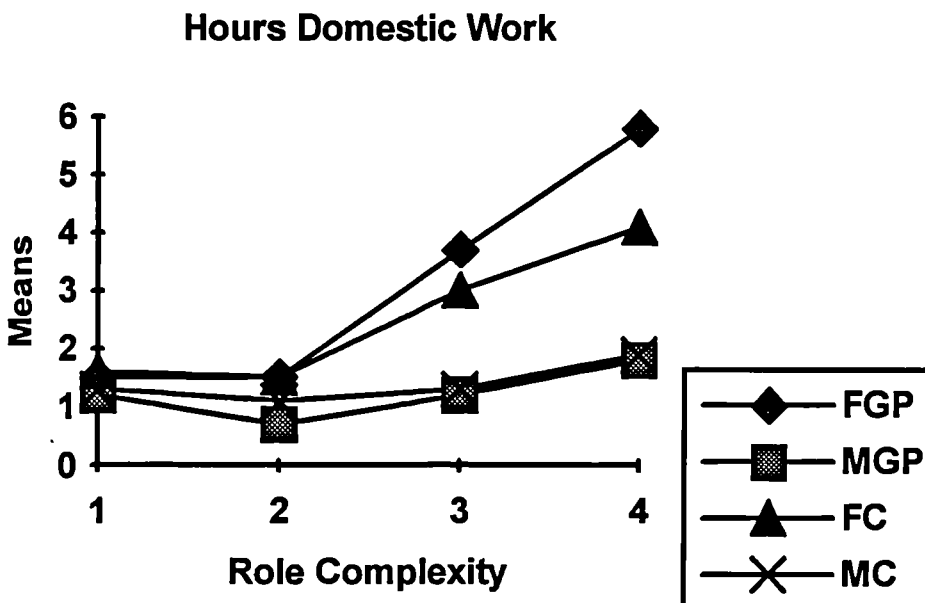


Table 10.2: Change in Hours Worked, Time on Call and Domestic Work with Increasing Role Complexity

a) MEANS (SD)		→ INCREASING ROLE COMPLEXITY			
		1. Single (SWD) No Children (n= 109)	2. Married/ Cohab. No Children (n= 120)	3. Married/ Cohab. Youngest Child 5-18 (n=310)	4. Married/ Cohab Youngest Child Under 5 (n=205)
<u>Hours worked</u>					
GP	Female	42.21(7.6)	39.98(16.5)	34.46(10.8)	31.58(10.9)
	Male	47.54(11.7)	44.87(7.2)	46.46(7.9)	46.31(8.9)
Cons	Female	47.84(9.1)	47.54(10.7)	43.33(10.7)	43.56(8.8)
	Male	51.57(5.6)	50.40(11.2)	52.25(11.0)	53.06(10.6)
<u>On Call</u>					
GP	Female	7.19(2.3)	6.59(3.4)	5.33(3.5)	5.06(3.2)
	Male	7.23(3.4)	8.17(1.6)	8.05(2.1)	8.00(1.9)
Cons	Female	7.24(3.4)	7.46(2.9)	6.50(3.1)	7.49(2.9)
	Male	8.14(1.9)	6.93(3.2)	8.42(2.2)	8.33(2.5)
<u>Domestic Work</u>					
GP	Female	1.54(1.5)	1.52(0.6)	3.70(1.8)	5.78(2.6)
	Male	1.18(0.6)	0.74(0.5)	1.19(1.1)	1.79(0.9)
Cons	Female	1.60(0.8)	1.47(0.8)	2.96(1.4)	4.15(1.8)
	Male	1.25(0.9)	1.14(0.5)	1.30(1.0)	1.85(0.9)

b) ANALYSIS OF VARIANCE		Source	df	MS	F
<u>Hours Worked</u>		Error	727	106.41	
Covariate	Age		1	678.58	6.4*
	Roles		3	301.08	2.83*
Main Effects	Sex		1	6308.24	59.28***
	Speciality		1	3705.33	34.82***
Interactions	Roles x Sex		3	511.47	4.81**
<u>On Call</u>		Error	728	7.60	
Covariate	Age		1	40.05	5.27*
	Roles		3	9.59	1.26
Main Effects	Sex		1	176.76	23.26***
	Speciality		1	13.24	1.74
Interactions	Roles x Sex		3	27.60	3.63*
	Sex x Speciality		1	35.10	4.62*
<u>Domestic Work</u>		Error	712	1.90	
Covariate	Age		1	6.66	3.50
	Roles		3	114.63	60.23***
Main Effects	Sex		1	257.61	135.36***
	Job		1	1.49	0.78
Interactions	Roles x Sex		3	49.73	26.13***
	Roles x Speciality		3	6.66	3.50*
	Sex x Speciality		1	16.45	8.64**

Notes : Degrees of freedom vary slightly due to missing data; * p<0.05, ** p<0.01, *** p<0.001

A similar pattern emerged in terms of amount of time on call, with the effect of sex being highly significant. Although there was no significant main effect of either role complexity or speciality, interactions between sex and role complexity, and sex and speciality were significant, suggesting that sex moderated the relationship between role complexity, speciality, and time on call. Examination of means, presented graphically in Figure 10.2, revealed that female GPs with youngest child aged 5-18, or youngest child under 5 spent less time on call than other groups. It should be noted that the mean values for time spent on call are within the range 5.0 to 8.5, which represent approximate periods of between one night every three weeks and one night per week.

In terms of time spent on domestic work/childcare, significant main effects for role complexity and sex, and significant interaction effects for sex and role complexity, sex and speciality, and role complexity and speciality were observed. Time spent on domestic work is shown to increase for both male and female parents in both speciality types, with youngest child under 5 in comparison with those with youngest child aged 5-18, and those without children. Female doctors overall spend significantly more time on housework / childcare than male doctors, and female doctors with children under 5 spend more time on domestic work than other groups. This relationship is indicated graphically in Figure 10.3.

In summary, being a parent with youngest child age 5-18, or under 5 has a greater impact on work hours, time spent on call and domestic work for female than male doctors.

Occupational Stress

The relationship between increased complexity of domestic roles and occupational stress, as measured by scales from the OSI was investigated. Group means and results of analyses of variance are presented in Table 10.3 (a) and (b).

Table 10.3 : Association between Aspects of Occupational Stress and Increasing Role Complexity

a) MEANS (SD)		→ INCREASING ROLE COMPLEXITY			
		1. Single, (SWD) No children (n= 111)	2. Married/ Cohab. No Children (n= 121)	3. Married/ Cohab. Youngest Child 5-18 (n=323)	4. Married/ Cohab. Youngest Child Under 5 (n=198)
<i>1. Factors Intrinsic to the Job</i>					
GP	Female	29.48(6.0)	29.61(4.8)	29.53(5.3)	28.75(5.6)
	Male	30.27(5.8)	32.67(4.3)	31.80(5.1)	31.51(5.3)
Cons	Female	29.67(5.6)	29.40(5.3)	28.62(5.1)	28.53(4.4)
	Male	23.75(7.7)	29.36(6.2)	30.16(7.2)	29.53(6.1)
<i>2. Managerial Role</i>					
GP	Female	35.60(7.4)	35.25(7.2)	35.43(8.6)	35.15(7.9)
	Male	36.30(10.3)	37.46(6.9)	35.59(8.5)	37.02(8.0)
Cons	Female	34.31(6.8)	37.13(6.3)	34.24(7.6)	32.44(7.9)
	Male	28.00(11.4)	36.14(8.8)	34.38(8.9)	34.57(7.0)
<i>3. Relationships with others</i>					
GP	Female	30.26(7.6)	31.26(6.8)	29.96(6.4)	30.41(7.1)
	Male	28.82(6.2)	31.25(6.9)	29.92(7.1)	32.45(7.4)
Cons	Female	31.38(7.1)	32.47(5.8)	30.90(7.4)	30.26(5.4)
	Male	26.37(6.6)	31.71(7.5)	31.28(8.3)	30.83(7.1)
<i>4. Career and Achievement</i>					
GP	Female	16.61(7.1)	19.20(7.2)	18.71(7.4)	18.09(7.0)
	Male	19.09(8.2)	19.75(6.9)	17.14(7.2)	19.56(7.5)
Cons	Female	19.26(7.9)	20.00(5.3)	18.11(6.3)	19.38(6.3)
	Male	16.12(5.2)	21.14(8.1)	18.29(7.3)	20.07(7.7)
<i>5. Organisational structure and climate</i>					
GP	Female	30.89(9.3)	33.26(6.6)	28.69(8.4)	30.73(8.4)
	Male	30.73(7.7)	32.42(7.5)	30.84(8.9)	32.77(8.9)
Cons	Female	35.88(10.3)	38.31(7.1)	35.81(8.1)	34.64(7.2)
	Male	27.00(10.7)	36.00(8.9)	33.79(8.8)	34.79(7.3)
<i>6. Home/work interface</i>					
GP	Female	-	29.85(9.2)	31.72(7.9)	31.97(8.4)
	Male	-	32.33(7.1)	30.38(9.0)	32.56(8.5)
Cons	Female	-	28.49(8.1)	29.50(7.3)	30.84(7.9)
	Male	-	25.14(8.0)	29.34(8.7)	31.43(9.0)

Table 10.3 (Contd.) : Association between Aspects of Occupational Stress and Increasing Role Complexity

b) ANALYSIS OF VARIANCE				
<u>SUBSCALE</u>	<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
1 Factors Intrinsic to the Job				
	Error	736	31.36	
<i>Covariate</i>	Age	1	247.27	7.89**
<i>Main Effects</i>	Roles	3	92.77	2.96*
	Sex	1	73.21	2.33
	Speciality	1	165.55	5.28*
	Roles x Sex	3	95.08	3.03*
<i>Interaction</i>	Sex x Speciality	1	237.90	7.59**
2 Managerial Role				
	Error	727	62.03	
<i>Covariate</i>	Age	1	476.21	7.68**
<i>Main Effects</i>	Roles	3	132.76	2.14
	Sex	1	2.64	0.04
	Speciality	1	167.36	2.70
3 Relationships with other people				
	Error	724	49.27	
<i>Covariate</i>	Age	1	875.34	17.77***
<i>Main Effects</i>	Roles	3	75.73	1.54
	Sex	1	5.25	0.11
	Speciality	1	157.55	3.20
4 Career and Achievement				
	Error	724	50.13	
<i>Covariate</i>	Age	1	512.48	10.22**
<i>Main Effects</i>	Roles	3	47.42	0.95
	Sex	1	19.91	0.53
	Speciality	1	168.73	3.37
5 Organisational structure and climate				
	Error	714	71.61	
<i>Covariate</i>	Age	1	386.30	5.39*
<i>Main Effects</i>	Roles	3	166.37	2.32
	Sex	1	122.78	1.71
	Speciality	1	1473.70	20.58***
	Sex x Speciality	1	395.74	5.53*
<i>Interaction</i>				
6 Home/work interface				
	Error	628	69.73	
<i>Covariate</i>	Age	1	501.39	7.19**
<i>Main Effects</i>	Roles	2	212.38	3.05*
	Sex	1	0.74	0.01
	Speciality	1	347.67	4.99*

Notes : Degrees of freedom vary slightly due to missing data; * p<0.05, ** p<0.01, *** p<0.001

The covariate age was significantly related to each scale. The main effect of role complexity was significantly related to occupational stress in two scales, ‘factors intrinsic to the job’ ($p < 0.05$) and ‘home/work interface’ ($p < 0.05$). Although no occupational stress scale revealed a significant main effect for sex, the ‘factors intrinsic to the job’ scale revealed significant interaction effects of roles and sex, and speciality and sex, suggesting that sex may moderate the relationship between these variables and this aspect of occupational stress. Examination of means reveal that male GPs recorded higher stress levels overall, on this scale, with those male GPs who were married non-parents recording most stress, and single male consultants recording least stress on this scale. This is represented graphically in Figure 10.4.

Similarly, the ‘organisational structure and climate’ scale showed a significant interaction effect of sex and speciality, with female consultants recording highest stress scores on this scale, represented graphically in Figure 10.5.

Figure 10.4 : Graph of OSI ‘Factors Intrinsic to the Job’ Scale for Increasing Role Complexity

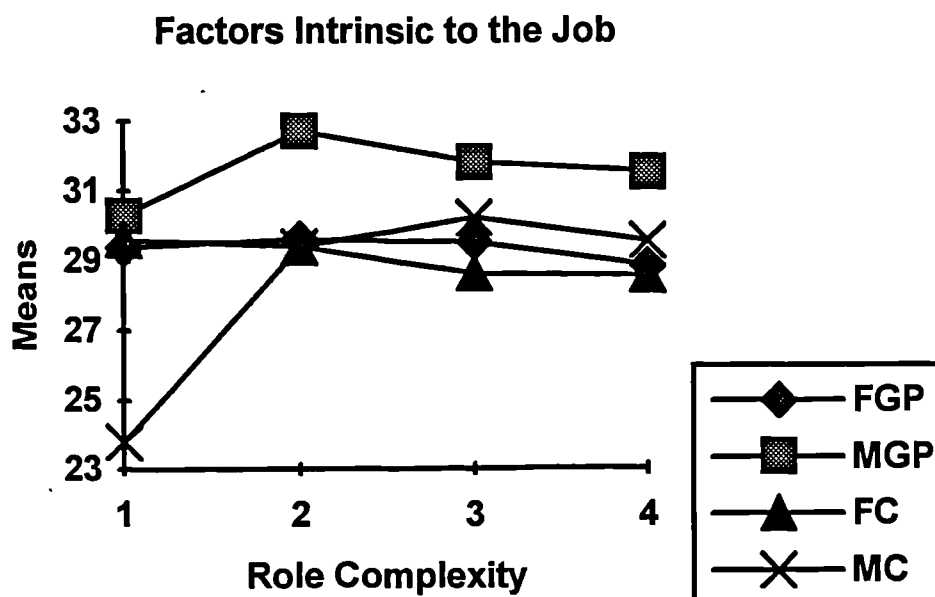
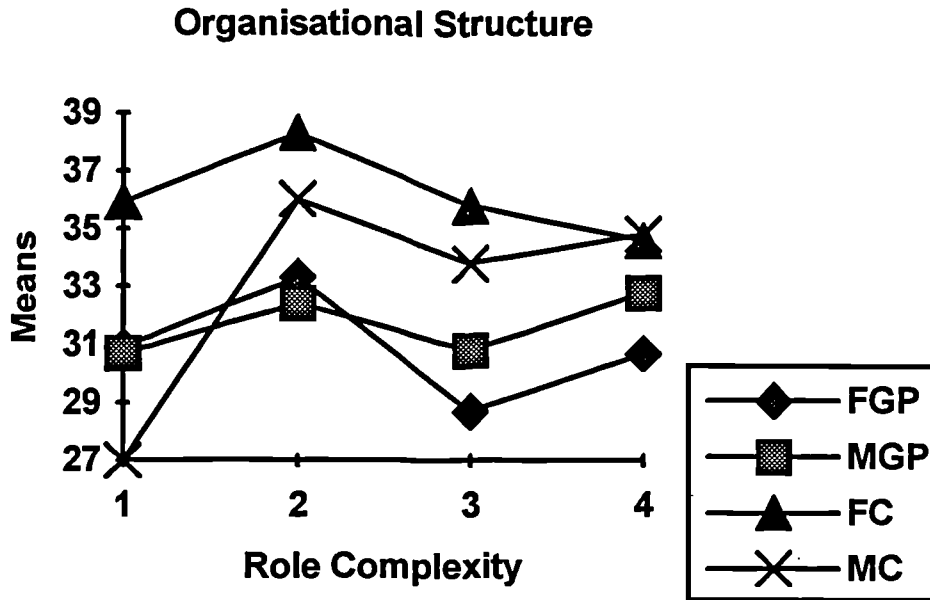


Figure 10.5 : Graph of OSI 'Organisational Structure and Climate' Scale for Increasing Role Complexity



Job Satisfaction

Neither the covariate, age, role complexity, or speciality were significantly related to job satisfaction, as measured by the OSI 'How you feel about your job' scale as shown in Table 10.4. However there was a highly significant main effect of sex on this scale, with female GPs and consultants recording higher job satisfaction scores than males.

In summary, increased role complexity was significantly related to occupational stress in only two scales from the OSI ($p < 0.05$). Role complexity was not significantly related to total job satisfaction.

Table 10.4: Association between Job Satisfaction and Increasing Role Complexity

a) MEANS (SD)		→ INCREASING ROLE COMPLEXITY			
		<i>1. Single, (SWD) No Children</i> (n= 114)	<i>2. Married/ Cohab. No Children</i> (n= 112)	<i>3. Married/ Cohab., Youngest Child 5-18</i> (n=305)	<i>4. Married/ Cohab., Youngest Child Under 5</i> (n=192)
<i>Job Satisfaction Total</i>					
GP	Female	82.98(18.1)	83.64(14.7)	83.88(16.3)	85.56(14.9)
	Male	81.18(14.3)	74.17(18.1)	79.77(13.7)	76.97(15.1)
Cons	Female	77.69(20.1)	82.95(17.0)	87.15(13.7)	81.87(15.5)
	Male	73.12(27.8)	78.14(15.8)	84.40(17.3)	82.39(10.8)

b) ANALYSIS OF VARIANCE	<u>Source</u>	<u>df</u>	<u>MS</u>	<u>F</u>
Job Satisfaction				
	Error	748	256.15	
<i>Covariate</i>	Age	1	5.51	0.02
<i>Main Effects</i>	Roles	3	640.31	2.50
	Sex	1	2261.54	8.83**
	Speciality	1	1.81	0.01

Key : * p<0.05, ** p<0.01, *** p<0.001

Stress Between Home and Work

Differences between doctors who were married, with no children, married with youngest child aged 5-18 and married with youngest child under 5 were investigated in terms of the interface between home and work. As described above, two factors were identified from the home/work interface scale to indicate stress transmission from work to home (WH) and from home to work (HW). Examination of means in Table 10.5(a) indicates consistently higher scores for WH stress in comparison with HW stress for all subjects.

Table 10.5 : Home to Work (HW) and Work to Home (WH) Stress, Home Stress, and Spouse Satisfaction for Male and Female GPs and Consultants

a) MEANS (SD)		→ INCREASING ROLE COMPLEXITY			
		<i>1. Single, (SWD) No Children (n= 109)</i>	<i>2. Married/ Cohab. No Children (n= 121)</i>	<i>3. Married/Cohab. Youngest Child 5-18 (n=323)</i>	<i>4. Married/ Cohab Youngest Child Under 5 (n=199)</i>
<u>WH Stress</u>					
GP	Female	-	17.58(5.1)	18.91(4.7)	19.25(4.6)
	Male	-	18.78(4.2)	19.49(5.3)	20.90(5.8)
Cons	Female	-	17.54(5.1)	17.51(4.9)	18.41(4.8)
	Male	-	15.31(5.5)	18.42(5.3)	19.50(5.8)
<u>HW Stress</u>					
GP	Female	-	12.81(4.8)	13.02(4.2)	13.38(4.2)
	Male	-	13.82(3.8)	12.36(4.1)	13.17(4.3)
Cons	Female	-	11.13(4.0)	12.36(4.2)	12.75(4.2)
	Male	-	10.26(3.4)	11.82(4.0)	12.79(4.2)
<u>Home Stress</u>					
GP	Female	2.12(0.8)	2.20(0.9)	2.55(0.7)	2.56(0.7)
	Male	1.98(0.7)	2.08(0.6)	2.32(0.8)	2.40(0.7)
Cons	Female	2.18(0.9)	2.08(0.8)	2.35(0.7)	2.68(0.7)
	Male	2.25(0.5)	1.93(0.6)	2.20(0.8)	2.60(0.9)
<u>Spouse Satisfaction</u>					
GP	Female	-	-	6.31(1.7)	6.93(1.9)
	Male	-	-	9.01(1.3)	8.84(1.5)
Cons	Female	-	-	6.80(2.1)	6.46(2.0)
	Male	-	-	8.61(1.6)	8.58(1.8)

b) ANALYSIS OF VARIANCE		Source	df	MS	F
<u>WH Stress</u>		Error	630	25.43	
Covariate	Age		1	29.54	1.16
Main Effects	Roles		2	144.37	5.68**
	Sex		1	41.89	1.65
	Speciality		1	166.96	6.57*
<u>HW Stress</u>		Error	629	17.34	
Covariate	Age		1	26.75	1.54
Main Effects	Roles		2	27.39	1.58
	Sex		1	2.16	0.12
	Speciality		1	135.87	7.84**
<u>Home Stress</u>		Error	741	0.56	
Covariate	Age		1	2.28	4.09*
Main Effects	Roles		3	5.73	10.29***
	Sex		1	0.38	0.68
	Speciality		1	0.01	0.02
<u>Spouse Satisfaction</u>		Error	506	2.88	
Covariate	Age		1	0.05	0.02
Main Effects	Roles		1	0.00	0.00
	Sex		1	512.61	178.25***
	Speciality		1	2.69	0.93

Notes : Degrees of freedom vary slightly due to missing data. Key : * p<0.05, ** p<0.01, *** p<0.001

As shown in Table 10.5, analysis of variance revealed that the covariate age was not significantly related to WH or to HW stress. However, the main effect of roles was shown to be significantly related to WH stress ($p < 0.01$), with male and female GPs and consultants with youngest child under 5 recording highest stress scores, although there was no significant effect of roles for HW stress. For both WH and HW stress, there was a significant main effect of speciality, with GPs recording higher stress scores than consultants in each role category. There was no significant main effect of sex for either WH or HW stress.

A highly significant effect of role complexity ($p < 0.001$) was also observed in terms of the global rating of stressfulness of home life, with parents of children under 5 recording the highest scores, although there was no significant main effect of sex or speciality in terms of home stress.

There was no significant effect of role complexity, or speciality in terms of satisfaction with spouse's contribution to housework and childcare for parents with children aged 5-18 in comparison with parents of children under 5. However there was a highly significant main effect of sex for this variable ($p < 0.001$), with male doctors expressing greater satisfaction with their spouse's contribution to domestic work than females.

For the total study sample, male doctors were significantly more likely than female doctors to report conflict over work with their spouse or partner ($\chi^2 = 26.66$, $df=1$, $p < 0.0001$) although there was no significant difference in the proportion of GPs and consultants reporting conflict ($\chi^2 = 2.06$ $df=1$, n.s.). For the 'role complexity' sample, there was no significant difference in the proportion of individuals who were married without children, with children 5-18, or children under 5, (role groups 2,3 or 4) in terms of reported work-related conflict with their spouse ($\chi^2 = 3.78$ $df=2$, n.s.).

Increasing role complexity was therefore significantly related to WH stress, and to global home stress, but not to HW stress or satisfaction with spouse's contribution to housework and/or childcare.

Predictors of Stress between Home and Work for Females and Males

Bivariate correlations of variables entered into the regression analysis, with the 'home/work interface' scale the as dependent variable, are shown in Table 10.6. Home/work interface stress was shown to be positively related to workload, the remaining occupational stress scales, home stress and conflict, and negatively associated with job satisfaction and spouse satisfaction.

Hierarchical multiple regression analysis was used to investigate the relative contribution of demographic variables, workload, occupational stress subscales, job satisfaction and domestic stress, conflict, and spouse satisfaction to the stressfulness of the home/work interface. Two separate regression analyses for female and male doctors were carried out as shown in Table 10.7.

The results indicate a rather similar pattern for male and female doctors. Overall, 57% of the variance in stress due to the home/work interface was predicted for both female and male doctors. Demographic variables (age, speciality and domestic role complexity) accounted for a slightly larger amount of variance in females (13%) than in male doctors (6%). The combined workload variables, (hours worked, time on call and domestic workload), predicted an additional .3% of variance in females and less than 1% of variance in home/work stress for males, time on call being a significant predictor of home/work stress for males but not for female doctors.

The 5 remaining Occupational stress scales jointly predicted an additional 34% of variance in home/work interface stress for females and an additional 41% of variance for male doctors, with the 'factors intrinsic to the job' being the most significant predictor for both males and females.

Job satisfaction made no significant contribution to the regression equation for either males or females. Indicators of domestic stress (home stress, conflict, and spouse satisfaction) predicted a further 10% of variance in home/work stress for females and 8% of variance for male doctors.

Table 10.6 : Correlation Matrix for Variables Used in Hierarchical Regression Analysis of Home/Work Interface for 'Role Complexity' Sample (N=779)

IVs	Age	Speciality	Roles	Hours Worked	On Call	Dom Work	OS 1	OS 2	OS 3	OS 4	OS 5	Job Satisf.	Home Stress	Conflict	Spouse Satisf.	
Demographic																
Age	1.0															
Job	.31***	1.0														
Roles	-.16***	-.10**	1.0													
Workload																
Hours Worked	.21***	.33***	-.10**	1.0												
On Call	.12**	.14***	-.04	.32***	1.0											
Domestic Work	-.19***	-.14***	.39***	-.43***	-.28***	1.0										
OS Scales																
1	-.08*	-.10**	.02	.11**	.03	-.11**	1.0									
2	-.12**	-.09*	.01	-.01	.03	-.03	.71***	1.0								
3	-.13***	.04	.01	.06	.01	-.01	.64***	.64***	1.0							
4	-.11**	.05	.01	-.03	-.02	.01	.44***	.44***	.57***	1.0						
5	-.04	.23***	-.04	.08*	.01	-.07	.54***	.54***	.69***	.64***	1.0					
Job Satisfaction	.01	.03	.05	-.09*	-.04	.08*	-.29***	-.25***	-.30***	-.33***	-.35***	1.0				
Domestic Stress																
Home Stress	-.11**	-.07	.22***	-.04	-.04	.21***	.17***	.17***	.18***	.16***	.16***	-.14***	1.0			
Conflict	-.04	-.06	.07	.14***	.16***	-.06	.23***	.20***	.22***	.16***	.19***	-.17***	.20***	1.0		
Spouse Satisf.	.05	-.01	-.04	.32***	-.41***	-.41***	.09*	-.01	-.01	-.08*	-.01	-.02	-.26***	.07	1.0	
DV																
Home/Work Stress	-.17***	-.14***	.30***	.02	.04	.17***	.56***	.54***	.54***	.40***	.37***	-.22***	.45***	.34***	-.21***	1.0

Key : Occupational Stress Scales : OS1 Factors intrinsic to the job; OS2 Managerial Role; OS3 Relationships with others; OS4 Career and achievement; OS5 Organisational structure and climate. * p<0.05, ** p<0.01, *** p<0.001

Table 10.7 : Hierarchical Regression Analysis of Stress Between Work and Home for Female and Male Doctors

Step	<u>1. Females</u>			<u>2. Males</u>		
	β	Multiple R	Adjusted R ²	β	Multiple R	Adjusted R ²
<u>1 Demographic Variables</u>		.3611	.1304		.2676	.0634
Age	-.0765			-.1351*		
Speciality	-.0873			-.0675		
Roles	.3093***			.1826***		
	<i>Overall F (3,423) = 21.15***</i>			<i>Overall F (3,348) = 8.95***</i>		
<u>2 Workload Variables</u>		.3822	.1339		.2989	.0735
Hours worked	.1381*			.0764		
Time on call	.0228			.1080*		
Domestic work	.0375			.0280		
	<i>Overall F (6,420) = 11.98***</i>			<i>Overall F (6,345) = 5.64***</i>		
<u>3. Occupational Stress Scales</u>		.6980	.4737		.7037	.4788
Factors intrinsic to the job	.2689***			.3577***		
Managerial role	.1078			.2175**		
Relationships with others	.2574***			.1527*		
Career and achievement	.1155*			.1297*		
Organisational structure and climate	-.0749			-.1071		
	<i>Overall F (11,415) = 35.85***</i>			<i>Overall F (11,340) = 30.32***</i>		
<u>4. Job Satisfaction</u>	-.0608	.7001	.4755	-.0439	.7048	.4790
	<i>Overall F (12,414) = 33.2***</i>			<i>Overall F (12,339) = 27.88***</i>		
<u>5. Domestic stress</u>		.7644	.5691		.7660	.5686
Home Stress	.2178***			.2417***		
Conflict	.1365***			.1112**		
Spouse Satisfaction	-.1511***			-.0764*		
	<i>Final F (15,411) = 38.51***</i>			<i>Final F (15,336) = 31.85***</i>		

Key : * p<0.05, ** p<0.01, *** p<0.001

10.7 Discussion

Utilising the concept of additivity or accumulation of stress between home and work, this study aimed to investigate the impact of increased complexity of domestic roles, occupational and domestic workload, and occupational and domestic stress and satisfaction on home/work stress. A further aim was to examine the theory of asymmetric permeability of work and home roles in a large sample of female and male doctors. Gender comparisons, and comparisons between doctors in different types of medical speciality, i.e. general practitioners and hospital consultants were considered.

The results of the study confirm those of previous research suggesting that increased domestic role complexity, and parenthood in particular, are related to reduced occupational working hours, and reduced hours on call, but increased time spent on domestic work for female doctors. However, for male doctors with young children in comparison with non-parents in this study, working hours and time on call are maintained or even increased, and time spent on housework or childcare is also increased, albeit to a lesser extent than for females. Nevertheless, for both male and female doctors, combined occupational and domestic workload variables add little to the prediction of 'home/work stress' in this study.

One explanation for the differential impact of domestic role complexity on the occupational and domestic *work hours* of male and female doctors may be the asymmetry of home and work roles, whereby home demands have a greater impact on female doctors, and demands of work have a greater impact on males. An alternative explanation may lie in male and female doctors' different family circumstances. In the present study, male doctors in the sample were older, more likely to be married/cohabiting, and had more children than females doctors. This pattern is similar to studies in the USA which suggest that greater financial family responsibility may be one reason why male doctors work longer hours than females (Weisman and Teitelbaum 1987; Grant et al. 1990). While this economic imperative for working longer hours is less likely to be a valid motivation for salaried male doctors working within the National Health Service in the UK, it may explain why female doctors are able to work fewer

hours when their children are young, in that they are less likely to be the sole source of financial support for their spouse and family. Opportunities for working less than full-time hours, job sharing, or taking career breaks are generally more available to females than males, and also more common in general practice than in hospital medicine, where career paths are more rigid (Allen 1988). Other studies also suggest that female doctors are more satisfied with their work hours, and their achieved balance between work and family time than are males (Bartoleme and Evans 1979; Grant et al. 1990).

It should be stated that work hours are a quantitative rather than qualitative measure of workload. Degree of personal investment or involvement in work, and degree of responsibility for occupational or domestic workload may be a more important determinant of stress or strain. In the present study, satisfaction with spouse's contribution to housework and childcare was assessed comparing the two parent groups in this study. Male doctors recorded significantly greater satisfaction with their spouses contribution to domestic work in these areas than did females, suggesting that traditional patterns of domestic responsibilities were maintained in this sample. Similar results were reported in Lewis and Coopers' (1987) study of two-earner couples in a wider range of occupations.

Excluding the 'home/work interface' scale, domestic role complexity was significantly related to higher scores on only one occupational stress scale, 'factors intrinsic to the job'. For this scale, which included items pertaining to amount of work, pay, minor hassles and decision making, the relationship between multiple roles and occupational stress was complex, since male GPs in each role complexity group recorded the highest stress scores and single male consultants recorded the lowest scores. There was no significant relationship between increased domestic role complexity and job dissatisfaction. It therefore appears that the second hypothesis, suggesting that increased complexity of domestic roles may be significantly associated with increased occupational stress or decreased job satisfaction, is not proven by this study when measures specifically pertaining to the interface between work and home life are excluded.

One point of interest in these results is the highly significant sex difference in terms of job satisfaction, with male doctors recording lower job satisfaction than females overall. Previous analysis for the whole sample, including individuals with children over 19 and those who were single, separated, widowed or divorced with children under 18, revealed that male GPs recorded high levels of occupational stress and the lowest levels of job satisfaction using the OSI scales (Swanson et al. 1996). Other researchers have suggested that job satisfaction for both GPs and consultants has reduced in recent years as a result of changes in the doctor's occupational role and the structure of the NHS (Sutherland and Cooper 1992; Myerson 1992; BMA News Review 1996). The existence of high levels of dissatisfaction in medical practitioners is obviously a cause for concern, as it has implications for the well-being of individuals themselves, for the future manpower resources of the NHS, and for the quality of medical care offered to patients.

In terms of domestic stress, there was a positive association between domestic role complexity and increased stress, with single or married non-parents reporting the lowest scores and parents with youngest child under 5 reporting the highest scores in each group. The 'home/work interface' scale scores also revealed a positive linear relationship between stress and domestic role complexity for female GPs, female consultants and male consultants. This relationship was further investigated by dividing the scale into two factors representing the bidirectionality of the home/work relationship, i.e. WH and HW stress.

Excluding non-married individuals from the sample, increasing domestic role complexity was shown to be significantly associated with WH stress, but not HW stress. This suggests that the demands of work on home life increase at a life stage when family life is likely to be at its most demanding. Since increased family demands are not significantly related to increased HW stress, it is possible to conclude that the theory of asymmetric permeability of home and work roles is supported by this study. However, there was no significant gender difference in the relationship between increased domestic role complexity and WH or HW stress in this study, suggesting no gender difference in the permeability of roles. This finding reflects results of a study from a community

of 278 males and 353 females, which also failed to find gender differences in the pattern of asymmetry (Frone et al. 1992b).

For males and females who were married non-parents, parents with youngest child 5-18, or youngest child under 5, mean score values were higher for WH than for HW stress, suggesting the impact of work on home life may be perceived as more stressful overall than the impact of home on work. Parents of children under 5 recorded highest WH stress scores, with no significant gender difference. Since responsibility for very young children is both physically and mentally demanding, the fact that work demands have the strongest impact on home life for this group must give cause for concern. As stated previously, doctors as a group are arguably in a more privileged position than many other occupational groups regarding financial stability, access to high quality childcare, domestic help, and availability of reduced working hours, to accommodate family needs within their job. Replication of this analysis with lower socio-economic status groups may therefore be expected to produce greater differences in terms of the impact of role complexity on stress between home and work.

General practitioners as a whole reported more HW stress than consultants. The reasons for this difference are necessarily rather speculative but may be related to failure to cope with occupational stressors or a perceived lack of social support (see Chapter 7), or female GPs in particular having a greater combined domestic and occupational workload in this occupational group. Frone et al's (1992b) study notes that home (family) to work conflict is related to the individual's overall concept of well-being, to a greater extent than work to home (family) conflict, and suggests that HW conflict more closely reflects feelings of self-efficacy or mastery, whereas WH conflict is perceived as being outwith the individual's own direct control. Higher HW stress scores in GPs may therefore indicate reduced psychological well-being, and is worthy of further investigation using a more comprehensive model of factors involved in HW stress.

The present study did not aim to construct a complete model of work/family stress. Some reservations arise as to the comprehensiveness of the measures of 'home/work'

stress adopted, and the possibility of common method variance arising from the use of measures of occupational stress and home/work stress taken from the same questionnaire. The focus of the research overall was on occupational stress, so tended to prioritise this area and included fewer indicators of home or family stressors. Attempting to build a comprehensive model of home/work stress, Frone et al. (1992) noted that *“there is evidence that mixed directional measures of WFC (work-family conflict) ... primarily assess work to family conflict”*. This may be the case for the measure used here, and the two factors identified here may not be directly comparable in terms of their impact. Further work is needed to develop comprehensive, reliable and validated measures quantifying the relative impact of related aspects of work and home life on the individual, to identify the extent of the problem.

For doctors as for many other workers, the distinction between ‘work’ and ‘home’ time may be less than clear. The mean length of working week ranged from 31 hours to 53 hours for the subjects in this sample, with time spent on call being additional. The necessity of taking work home, including keeping up with paperwork, reading to keep up with advances in medicine, and constant availability to patients demands during time spent ‘on call’, means that time spent at home is not necessarily one’s own. The increasing encroachment of work activities into time which is perceived as being for oneself or for family is therefore a potential source of resentment and marital conflict for many individuals, and this may especially be the case when the family unit includes very young children whose demands are paramount. Since greater well-being is derived from individuals’ ability to be able to function effectively in both domains, and it is clear from this rather exploratory study that the relationship between home and work is a definite source of stress, it is important for employers to recognise the need for individuals to fit the demands of work into a normal working day.

CHAPTER 11 :
Conclusions and Recommendations

11.1 Introduction

Many studies have shown occupational stress to have a high cost to both individuals and employers. This cost can be measured both in economic terms, for example by absenteeism or poor work performance, and in personal terms considering the impact on individual mental and physical health and well-being. In a society where individuals place an increasingly high value on health and quality of life, the issue of occupational stress has therefore become increasingly important over recent years.

The same medical professionals who are responsible for the health care of others are also vulnerable to occupational stress, and the issue of 'who cares for the carers' is an important one. The National Health Service in Scotland employed approximately three and a half thousand GPs and two and a half thousand specialist consultants at the time this study was carried out. The potentially great human and economic costs of occupational stress in such a large workforce is therefore of much importance. However, a medical career is also potentially very rewarding, and it is important to balance the negative side of the doctor's role with consideration of the satisfactions and rewards in working in medicine.

The present study sought to identify work-related sources and levels of stressors, the consequences or outcomes of such stressors, and factors affecting the experience of stressors or stress outcomes in doctors working in Scotland. In order to examine the effects of medical speciality and gender, the sample included roughly equal numbers of males and females, and GPs and consultants.

The study was carried out using a cross-sectional questionnaire survey. Based on a theoretically derived model of stressors, moderators or mediators, and stress outcomes or strains, the questionnaire incorporated both standardised and validated, widely used measures of stress and satisfaction, and open ended categories, giving subjects the opportunity to describe their own opinions and experiences. One particular aspect of occupational stress, the interface between work and home life was studied in detail. Although this aspect has previously been identified as a source of stress for both male

and female doctors, it has been discussed mainly with reference to females, although there is evidence of increasing concern among male doctors regarding their required levels of commitment to their job, perceived to be at the expense of family or personal life (Allen 1994). Many studies considering the impact of work on home life for doctors have also been rather anecdotal and atheoretical. In the present study, the interface between home and work was discussed with reference to alternative theoretical models, and in terms of the demographic and domestic characteristics of individual male and female doctors. Links between age or life stage of the doctors in the present study, and their perceived levels of stress and satisfaction were also established.

As in many professional occupations, women constitute a growing proportion of working doctors, although they have not yet achieved parity with males in terms of job levels, overall numbers, equity of pay, or in political representation at the highest levels of the career hierarchy. Many previous studies of doctors have included females only in small numbers, and have therefore been unable to draw firm conclusions in terms of attitudes to their work or work roles. A major strength of this study was therefore the ability of the sample to demonstrate clear gender differences in terms of many of the study variables.

11.2 Main Conclusions from the Present Study

- *Levels of occupational stress for both GPs and consultants in the study were generally lower, or did not differ significantly from population norms on the occupational stress scales of the OSI.*

This was an unexpected finding, and contrary to the common perception of the doctor's role as one of the most stressful in comparison with other occupations. Previous studies of GPs (Sutherland and Cooper 1993) and Health Service workers in the UK (Rees and Cooper 1992) carried out during approximately the same time period, had reported both GPs and other health service workers to have generally higher stress scores than norms using the same measure. It is therefore difficult to conclude that the lower stress scores

found in the present study were affected by the lack of sensitivity of the OSI to medical occupational stressors.

- *Total levels of job satisfaction were not significantly different from norms for either GPs or consultants, but were significantly greater than for norms on some individual job satisfaction subscales.*

The expectation that doctors would have reduced job satisfaction in comparison with individuals in other occupations is also not borne out by the present results. Using other job satisfaction scales, (e.g. Warr, Cook, Wall 1979) GPs in particular have previously been shown to report significantly less job satisfaction than norms (Sutherland and Cooper 1993). The job satisfaction scores reported in the present study may reflect the bias towards inclusion of greater numbers of females in the present sample than are found in most other studies. Previous research has shown females to generally report greater job satisfaction than males, and this was also the case for the female and male doctors in this study, with both female GPs and female consultants reporting greater job satisfaction than male GPs and male consultants respectively.

It may be that doctors in Scotland perceive their work to both less stressful and more satisfying than their colleagues in the rest of the UK. The present study did consider demographic factors for general practitioners, such as the type of practice, number of partners etc. as potential variables, but found few significant differences in levels of occupational stress between different types of practice, although male doctors in rural areas did report greater job satisfaction. Scotland has been reported to offer improved 'quality of life' in comparison with many other parts of the UK, and this may be responsible for a reduced perception of occupational stress and improved job satisfaction, although the contribution of 'quality of life' to occupational stress or job satisfaction would be very difficult to quantify.

- *A significant relationship between occupational stress and job satisfaction was found in this study, with correlations generally being of a medium order, and in a negative*

direction, i.e. increased stress was associated with reduced job satisfaction. However, only a small amount of variance in job satisfaction (14%) was predicted by the combined occupational stress subscales.

The negative association between occupational stress and job satisfaction found in the present study confirms the relationship identified in many previous studies (e.g. Cooper et al. 1989; Richardsen and Burke 1991; Ramirez et al. 1996). The small amount of variance explained suggests that many other factors apart from occupational stressors may be of importance in explaining job satisfaction. Such findings are by no means atypical in stress research, and reflect the complex multivariate nature of the concept of 'stress'. Stable individual factors, such as personality which might predict reporting of both occupational stress and job satisfaction were not recorded in the present study. Previous studies have shown that 'satisfactions' in home life (for example, marital satisfaction, and overall life satisfaction) are significantly associated with job satisfaction, and this was the case in the present study, with 'domestic stress' and 'spouse conflict' being negatively associated with job satisfaction.

- *Levels of occupational stress were significantly higher for GPs than for consultants on three out of six subscales. GPs found factors intrinsic to their job, their managerial role, and the home/work interface to be greater sources of stress than did consultants.*
- *GPs recorded significantly lower job satisfaction scores than consultants on three out of five subscales. Consultants reported more satisfaction from achievement, value, growth, the job itself, and organisational processes than GPs, although GPs found personal relationships and organisational structure more satisfying.*

These findings are of particular interest when considered in terms of the present problems of morale and recruitment of doctors to general practice (Royal College of General Practitioners 1996). Many structural changes have taken place within general practice during the 1990's, leading commentators to suggest a feeling of devaluation of

the skills of the GP and the general practice team. The findings of the current study support this view, and therefore have implications for future recruitment of GPs.

- *The GPs and consultants in the study varied slightly regarding personal and demographic characteristics. The consultants tended to be older, work longer hours and spent more time on call than GPs.*

The age profile of the study sample was to be expected given the longer period of training required to reach consultant grade than to achieve GP principal status. The difference between specialities in terms of hours worked and time on call may be a reflection of the wider range of external commitments held by consultants, and such differences were maintained when doctors on part-time contracts were excluded from analysis.

- *When consultants were classified according to speciality type, significant differences emerged regarding both levels and sources of occupational stress and job satisfaction. Public Health/Community Specialists recorded highest levels of stress and the lowest levels of job satisfaction overall. Anaesthetists recorded the lowest levels of stress, and Laboratory Specialists recorded the highest levels of job satisfaction.*

It is not unexpected that different medical specialities might be perceived as more or less stressful in terms of their work characteristics. Specialities such as Public Health/Community Medicine, Radiology and Anaesthetics, have previously been described as having 'practitioner' status (Allen 1988; Elston 1991) and as being 'second class niches into which women or ethnic minority doctors might be pushed' (Elston 1993). This lower status may be an explanation for the higher levels of occupational stress in Public Health/Community Medicine found in the present study. An alternative explanation may lie in the lack of managerial training given to individuals occupying such posts. Alternatively, surgical specialities are perceived as more demanding, but also more prestigious and intrinsically rewarding than many others. It might therefore have been

expected that individuals in such specialities with a high degree of clinical commitment and patient contact would experience the highest levels of occupational stress, and the highest degree of job satisfaction, which was not the case in the present study. Although Public Health/Community specialists recorded high stress and low satisfaction scores, differences between speciality types did not otherwise reflect the pattern of 'high clinical or patient commitment, high satisfaction' observed in other studies (Ramirez et al. 1996). Results in the present study may have been affected by the balanced gender composition of the sample, whereas most other studies comparing consultant specialities have included predominantly male samples.

- *Although males currently outnumber females in all types of medical speciality, some specialities include a very low relative proportion of females in comparison with others where numbers of males and females are more balanced. An unexpected finding of this study was that females in consultant specialities which traditionally include a small proportion of females reported lower levels of stress and greater job satisfaction than females in specialities which include a higher proportion of females.*

It might have been expected that for female doctors in specialities where there are a very small proportion of females, occupational stress may have been increased and job satisfaction reduced by their minority or 'outsider' status, lack of role models, peer support and experience of prejudice. This was not the case in the present study, with females in such specialities reporting greater job satisfaction and less stress. This may be because females in such specialities have reached consultant status by possessing or developing 'stress-resistant' characteristics, because they are more readily accepted by their male peers than female peers, or conversely may be a result of such women having fewer domestic commitments and reduced role conflicts.

- *Almost half of all female doctors in the study, and females in five out of the eight consultant specialities perceived female gender personality traits to be advantageous*

in medicine, whereas only an eighth of males perceived male gender personality traits to be advantageous.

- *Younger male doctors in particular were more likely to see current male domestic and occupational stereotypes as negative.*

Being female was seen by female doctors to be more frequently advantageous than disadvantageous in the medical profession in terms of 'female' personality traits such as empathy and sensitivity, but not in terms of female social occupational and domestic role stereotypes or female physical gender characteristics. Male doctors, particularly those in the younger age groups, tended to see male personality 'traits' such as authoritarianism, paternalism and competitiveness, and male domestic role stereotypes such as being the breadwinner, as disadvantageous, suggesting a dissatisfaction with conventional male roles, both in the domestic and occupational settings for this group.

- *The present study identified a negative linear relationship between age and occupational stress, and a positive linear relationship between age and job satisfaction, suggesting that doctors who were younger found their work more stressful and less satisfying.*

The present study found a linear relationship between both occupational stress and job satisfaction and age of subjects. Two recent studies using measures of stress outcomes (i.e. job satisfaction, mental health) have identified a 'U' shaped relationship with age and suggested that both younger and older subjects experience higher levels of job satisfaction and mental health than those in middle age ranges (Clark et al. 1996; Borrill et al. 1996). Also, previous studies of general practitioners have variously found both older doctors (Cooper et al. 1989) and younger doctors (Winefield and Anstey 1991) to experience greater occupational stress. However the present study did not include very young doctors, with the minimum age group of the sample in the present study (i.e. 26-30 years) being older than those in other studies, reflecting the fact that subjects were at the higher levels of their profession, i.e. GP principals or specialist consultants. It may

also be the case that it is not age per se, but life stage which is important in the experience of occupational stress or job satisfaction. Although other studies have considered occupational, structural, career, or educational factors which may influence the experience of stress and satisfaction, demographic and personal factors such as marital and parental status are often not taken into account. In the present study, whereas age was found not to be directly related to 'work to home' stress, there was a significant relationship between domestic role complexity and 'work to home' stress, whereby subjects with young children under five recorded the highest scores in terms of this aspect of occupational stress.

- *There were clear gender differences in the demographic characteristics of males and females in the sample. Female doctors in the study were significantly younger, more likely to be single, and less likely to be parents than were males.*

In her study of doctors and their careers, Allen (1988) noted that female doctors were likely to need to compromise personal relationships in order to achieve career success, and noted that family commitments were frequently perceived as barriers to career progress by females, but not by male doctors. This finding was clearly supported by results from the present study, whereby female GPs, and to a greater extent female consultants were shown to be more likely than males to have single, non-parent status.

- *Female doctors, and particularly those with young children, were found to work significantly fewer hours than male doctors, and the female GPs worked proportionally fewer hours than female consultants, being more likely to have part-time contracts.*

Studies in the USA have also noted that, in dual career relationships, females are significantly more likely to compromise work hours, and career progress to fulfil domestic or parenting demands than are males (Nadelson et al. 1979; Grant et al. 1990). The same pattern was observed in the present study, with females being less likely to be married/cohabiting, or to have children, and likely to work fewer hours and spend less

time on call than their male colleagues. As noted above, female domestic stereotypes tended to be noted by females as being disadvantageous in medicine, whereas male domestic stereotypes were more frequently noted as advantageous than disadvantageous by males. Similarly, female doctors with increased role complexity, and particularly those with very young children in the present study were found to spend significantly fewer hours working or on call, and longer hours on domestic work than males with similar levels of domestic role complexity, whereas there was no impact of role complexity on the work hours of male doctors. Female doctors also expressed significantly less satisfaction with their spouse's contribution to domestic arrangements than males.

- *For both female and male doctors, increasing domestic role complexity was related to increased occupational stress in terms of intrinsic job factors (e.g. number and breadth of work tasks) and the home/work interface, and also to domestic stress. However, there was no significant relationship between role complexity and job satisfaction.*

The present study adopted a theoretical approach to the study of the relationship between occupational stress and home life. Although increased 'role complexity' or multiple roles were shown to be significantly related to increased occupational stress on two subscales, there was no significant relationship between role complexity and job satisfaction, and it was of particular interest in this study that a significant gender effect was found in terms of the impact of role complexity on occupational stress on only one subscale. For both male and female doctors, those with young children under 5 (i.e. greatest role complexity) had the highest levels of stress in the interface between home and work.

- *When stress in the home /work interface was characterised by its impact from either 'work to home' or from 'home to work', increasing domestic role complexity was found to be significantly related to 'work to home' stress but not to 'home to work' stress, with no gender difference in this effect.*

The theory of asymmetric permeability of roles, i.e. that 'home to work' stress would be greater than 'work to home' stress was also investigated, and confirmed in the present study. Results confirmed findings in other studies (Frone et al. 1992a, 1992b), revealing no significant gender difference in terms of the relative impact of 'home to work' and 'work to home' stress.

- *Overall coping efficacy was positively associated with job satisfaction and negatively associated with occupational stress for both male and female GPs.*
- *There were significant differences in the types of coping strategies (coping styles) used by male and female GPs. Females reported greater use of social support, whereas males reported greater use of emotion focused and avoidance coping.*

Coping behaviour has been shown in other studies to be an important intervening variable in the relationship between occupational stress and job satisfaction, and gender differences in the use of coping strategies and styles have been identified. It was of interest in the present study to note female GPs' proportionately greater use of social support and male GPs' greater use of avoidance coping (e.g. smoking, alcohol use), which confirms findings of previous studies (Vingerhoets and Van Heck 1990; Myerson 1992). Although some coping strategies may be identified as 'maladaptive', they may be adaptive in coping with short term or acute stressors, or in situations where the stressor is perceived as not amenable to change by the individual concerned.

In terms of intervention to improve coping skills, it is important not only to be able to identify what strategies are used, but also to identify the perceived efficacy of these strategies. Unfortunately in the present study, no information was recorded as to the perceived efficacy of individual coping strategies, and this important aspect of measurement of coping should be included in future research studies. Although it could be argued that strategies used most frequently are those which are judged most useful in providing relief from distress, this is not necessarily the case (Newton 1989).

11.3 Methodological Problems and Suggestions for Future Research

The academic study of occupational stress is fraught with methodological difficulties, beginning with the many available definitions of 'stress'. The present study addressed some of these methodological problems by adopting a predetermined and proven theoretical model, and identifying and addressing previous inadequacies within this model. This achieved a comprehensive review of 'stressors', i.e. sources and levels of stress, using standardised and validated, widely applied measures, together with subjective self report data, and a consideration of the relationship of overall occupational and domestic workload to stress and satisfaction.

However, there were some limitations to the present study. Although the intervening variables of gender, medical speciality, age, and personal and occupational characteristics were considered, and frameworks were developed for the discussion of some possible mediators/moderators of stress, other potential intervening variables, particularly dispositional factors such as personality or positive or negative affect were not investigated in the present study. Recent studies in the stress field have indicated the value of controlling for such factors across measures of stressors and strains (Deary et al. 1996), and this approach would be adopted in future studies of stress in medical professionals.

The main outcome variable employed in the study was job satisfaction, measured using validated scales, and global self report items. Although the present study did not intend to construct a complete transactionist model of stress, those analyses which were carried out explained a relatively small proportion of variance in stressors or strains using only job satisfaction as a possible outcome of stress, and a future study might more profitably consider a range of potential outcomes and responses to stressors, including not only mental or physical health outcomes, but also considering emotional responses to stressors such as anger or alienation. As with many other studies, the present research has also tended to focus on negative responses to stress, whereas positive or adaptive

responses to stressors may also be usefully studied and highlight factors which enable individuals to cope successfully with stress.

The search for 'causes' of occupational stress and strains in the psychological tradition centres on factors within the individual which affect appraisal of events as stressful, or on individual responses to such events. However it is argued that such an approach can be enhanced by consideration of the interrelationship between socially determined conditions and subjective experience (Handy 1988). In addition to the study of the individual experience of 'stress', the present study therefore also aimed to include a psychosocial perspective, examining the impact of stressors existing within occupational and domestic structures in society. Adopting this perspective acknowledges the responsibility of organisational and social structures and shifts the onus for adaptation to change away from the individual. In this sense, the 'monomethod' self-report questionnaire methodology adopted in this study, as in the majority of such studies may have been insufficient to explain much of the variance in 'stress'. As suggested by Cox and Ferguson (1994), future studies should adopt both subjective and objective perspectives, using both individual, social structural, and environmental measures and a range of methodologies to obtain more complete explanations of 'stress'.

The impact of the home/work interface in terms of occupational stress was studied in the present study using a short scale taken from the OSI, and considering the relationship of this scale to domestic and personal demographic variables. This is an important area of stress research, which is becoming more relevant with changes in the structure and organisation of work and family life. However, a range of potential variables in the home/work interface remain to be addressed, including assessment of the relative value and investment placed on home and work factors by individuals, both male and female, and the possibility of change over time in this relationship. Further development, validation and standardisation of a measure to evaluate the relationship between home and work including the degree and directionality of impact of stressors and satisfactions in both domains would provide a useful tool in the future assessment in this area.

Recent calls to change the 24 hour commitment of GPs to patient care has led to the development of 'out of hours' co-operatives in Scotland, and more recently the provision of Accident and Emergency 'trauma' centres as a source of self-referral for patients. The impact of such services on the relationship between doctors' occupational demands and the family life of general practitioners would also form a very interesting future area of study.

11.4 Implications of the Research for Doctors, Patients and the National Health Service.

There is evidence that doctors are particularly vulnerable to mental strain linked to occupational stress. However, the nature of medical work tends to mitigate against seeking treatment, with individuals tending to self-treat or delay in seeking help or support. Who cares for the carers is important, and recent initiatives to support doctors suffering from stress, such as the BMA's telephone counselling service, are to be welcomed (BMA 1996). Structured long term monitoring of the physical and psychological health of doctors would also insure against the loss to the health service of individual doctors through mental or physical ill-health or early retirement.

The identification of areas of medical work which are most stressful for doctors, should enable future resources to be more effectively targeted both at the level of the GP practice or Consultant department, and by NHS management, with the aim of reducing such sources of stress in the future. For example, time pressure, noted as a source of stress by a large proportion of GPs and consultants has been shown to improve following introduction of longer appointment booking intervals, which are also preferred by patients (Wilson et al. 1991).

The present study also identified particular areas of job satisfaction for male and female doctors. Relationships with patients was mentioned as the main source of satisfaction for GPs, and was high on the list for consultants. However, it was also noted that some male doctors were dissatisfied with their 'male stereotypical' ways of communicating with patients whereas females felt that female stereotypical qualities were of benefit in their

medical role. Future initiatives to foster mutual doctor-patient communication perhaps including training for male doctors in the 'female' skills of empathy and understanding might therefore be encouraged as contributing to the future well-being of both patients and doctors.

The finding that doctors in Public Health and Community Medicine specialities recorded the highest levels of occupational stress and least job satisfaction among consultants has particular relevance in the light of criticisms of the handling of the recent E Coli outbreak in Scotland. The present study suggests that managers should consider both more specialised recruitment, and improved training in managerial skills for individuals already occupying such posts, together with support for improvement in their skills or resources for coping with stressors. There is also definitely a need for training of doctors at undergraduate level in aspects of business or management skills and time management, together with training in the development of personal skills for handling stress.

The present study also enabled identification of groups of doctors who were likely to be subject to stress at certain stages in their career, in particular those who were younger, male, and parents of young children. Although opportunities currently exist in general practice and in some areas of hospital medicine enabling part-time working, further support for such opportunities, and a cultural attitudinal change towards the acceptability of taking 'time out' for both male and female doctors is also required. In an ageing population, time out for caring for elderly relatives may also be a requirement for both male and female doctors in the future. Although paternity leave is rare in the current economic and social climate, reduced polarisation of the occupational and domestic roles of male and female doctors may lead to more equitable future provision of more 'time out' for doctors of both sexes, enabling them to cope more effectively with the combined stressors of work and home.

Changes in the ethos of the NHS, from a clinically driven to a managerially driven service have been criticised throughout the medical profession. The results of this study

indicated that the imposition of structural change in an organisation such as the NHS has been an additional source of managerial stress for doctors with an already heavy workload. Although general awareness of the consequences of occupational stress in both employers and employees has undoubtedly increased in recent years, with some employers adopting measures to reduce stress in the workplace by offering stress management and counselling services, there is little evidence that the morale in health service employees has improved since this present study was carried out. The long-term value of organisational 'stress management' schemes and counselling services in achieving the aim of reducing occupational stress is also called into question (Handy 1988; Briner and Reynolds 1993). In this sense the findings of the present study reinforce the view that it would benefit both doctors and patients within the NHS if future change was perceived as flexible and 'evidence based' rather than initiated on political or ideological grounds, and open to consultation rather than imposed.

CHAPTER 12 :
References

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APPENDIX I :
Introductory Letters



Forth Valley GP Research Group

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Tel: Stirling (01786) 473171 (Ext. 7685) or Stirling 467685 (Direct Line)

APPENDIX I

A. Letter to all Female GPs and Consultants :

Dear Doctor

Job Satisfaction, Occupational Stress and Role Conflict in Women Doctors in Scotland

I am writing on behalf of the Forth Valley General Practice Research Group to ask for your assistance in a large scale study of Job Satisfaction, Occupational Stress and Role Conflict in Women Doctors in Scotland.

Research has confirmed that many doctors experience a high degree of stress because of the very demanding nature of their profession. Studies of the careers of women in medicine also show that overall numbers of women in career grades are increasing, and sources and experience of job stress and job satisfaction may be different from that of their male colleagues.

This study therefore aims to study these issues with 2 groups of women doctors, General Practitioners and Consultants, from all Health Board areas in Scotland. A questionnaire is enclosed with this letter which I would be very grateful if you could complete and return to me in the envelope provided. No stamp is necessary.

I must stress that your reply will be completely anonymous and confidential. The questionnaire does not include any reference to your name, address, or Health Board area.

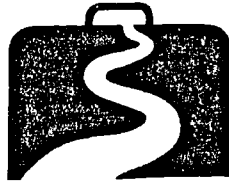
If you would like a copy of the results of this research, please complete the enclosed post card and return it separately to the above address.

In the light of current changes in the Health Service, I hope that this research will be a relevant indicator of the position of women working in medicine in Scotland. We will therefore be very grateful for your assistance in completing this questionnaire.

Yours sincerely

Research Administrator
Forth Valley GP Research Group

Chairperson
Forth Valley GP Research Group



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B. Letter to all Male GPs and Consultants :

Dear Doctor

Job Satisfaction, Occupational Stress and Role Conflict in Doctors in Scotland

Over the past few months we have been carrying out a study of stress in women doctors in Scotland, on behalf of the Forth Valley GP Research Group. A questionnaire was sent to a sample of women GPs and Consultants from each Health Board in Scotland.

There was a good response to these questionnaires, and analysis of the results is currently underway. Interesting differences are emerging between the groups of women doctors as to what aspects of their job they find most stressful, and the interaction between work and home life. The research group members believe so strongly that the issue of stress needs proper evaluation at this time that they have funded this research personally (not from any outside grant).

In order to make this a comprehensive study, the Group have now decided to ask a sample of male doctors (GPs and Consultants) to answer the same questions. We appreciate that this is yet another call on your time, but hope that the results will make a comprehensive and major contribution to current debate.

*I must stress that your reply will be completely anonymous and confidential.
The questionnaire does not include any reference to your name, address, or Health Board area or other identifier.*

You have been selected to make up a random sample. Since there is a complete guarantee of anonymity, we are completely dependent upon your goodwill to obtain a good response, equivalent to that of the women doctors.

We are very grateful for your assistance in completing the enclosed questionnaire. It should be returned in the FREEPOST envelope provided. No stamp is necessary. If you would like a copy of the results of this research, please complete the enclosed post card and return it separately to the above address.

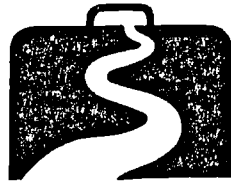
Yours sincerely

Research Administrator
Forth Valley GP Research Group

Chairperson
Forth Valley GP Research Group

APPENDIX II :
Questionnaire

Questionnaire



Forth Valley GP Research Group

Department of Psychology, University of Stirling, Stirling FK9 4LA, Scotland
Tel: Stirling (01786) 473171 (Ext. 7685) or Stirling 467685 (Direct Line)

***Job Satisfaction, Sources of Occupational Stress and Role Conflict in
Doctors in Scotland***

***General Practitioner Questionnaire
Consultant Questionnaire***

All information given will be anonymous and completely confidential.
Please read carefully and give the answers which best apply to you.

Please return completed questionnaire to Mrs V Swanson at the above
address, in the envelope provided.

Occupational Stress Indicator Items c. 1988 Cooper, Sloan and Williams.
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SL4 1DF. All Rights Reserved.

Please answer all questions as indicated.

1. Age 26-30 31-35 36-40
 41-45 46-50 51-55
 56-60 61-65 over 65

2. Current Marital Status

- Single Married /cohabiting
 Separated Divorced Widowed

3. Job Title and Qualifications

- (i) a. Job title (Main post)
- b. Other post (s)
-

(Please answer following Q's with respect to your main post)

- (ii) Qualifications - a. Medical
- b. Other

(iii) Length of time in current (main) post

(iv) Total no. of years practising medicine (since qualifying)

(v) Have you had any CAREER BREAKS ? YES NO

IF YES ..

Number and length of any career breaks, and reasons, e.g. choice, illness, etc.

1 from to reason

2 from to reason

3 from to reason

4 from to reason

4. *Hours Worked Per Week*

(i) Is your NHS contract officially :

Full time (over 26 hours) 19-26 hours <19 hours
 with no limitation per week per week
 in commitment

(ii) Are you employed on a JOB SHARE basis ? YES NO

(iii) How many hours in total do you actually work in your job(s) per week
 (Include on call daytime, exclude on call evenings, weekends)

.....

(iv) Out of hours on call (please specify on call commitment)

.....

5. *Details of Practice*

(i)
 (a) Total no. of PARTNERS (include yourself)

(b) Total no. of FEMALE (MALE) partners (include yourself)

(c) No. of ASSISTANTS and / or TRAINEES

(ii) Practice type :

(a) Group Single handed

(b) Rural Urban Suburban City Centre

(iii) (a) Size of PARTNERSHIP PRACTICE LIST

(b) Size of your own HEALTH BOARD LIST

(c) Estimate of your PERSONAL LIST if different.....

(iv) No. of patients for whom practice receives DEPRIVATION ALLOWANCE

Question 5 above applicable to GPs only - Alternative for Consultants as follows :

4. How many other Consultants do you share on call with ?

5. Department / Speciality

6. Other Work Commitments (tick as appropriate)

	YES	NO
(i) All ...		
Hospital Committees	<input type="checkbox"/>	<input type="checkbox"/>
Health Board Committees	<input type="checkbox"/>	<input type="checkbox"/>
Chairman of Division Committee	<input type="checkbox"/>	<input type="checkbox"/>
Voluntary Bodies	<input type="checkbox"/>	<input type="checkbox"/>
BMA / LMC	<input type="checkbox"/>	<input type="checkbox"/>
Research Work	<input type="checkbox"/>	<input type="checkbox"/>
Lecturing	<input type="checkbox"/>	<input type="checkbox"/>
Industry	<input type="checkbox"/>	<input type="checkbox"/>
GPs only...		
Clinical Assistant / Hospital Work	<input type="checkbox"/>	<input type="checkbox"/>
Medical Exam Boards	<input type="checkbox"/>	<input type="checkbox"/>

(ii) Others (specify)

7. (If no spouse / partner, go to Q 8)

(i) Is your spouse / partner in paid employment ? YES NO

If YES, Give Spouse / Partners Occupation :

(ii) How many hours per week on average does
 your spouse / partner work in his / her job ?

(iii) How many hours is he / she on call / standby ?
 (If applicable)

8. (i) Do you have any children ? YES NO
(If NO, go to Q 9)

(ii) Number of children

(iii) Age (s)

(iv) Number of children living at home

(v) How satisfied are you with your childcare arrangements overall ?

Extremely Very Satisfied Not very Very
Satisfied Satisfied Satisfied Dissatisfied

Or .. Not applicable

9. *Other Dependents*

(i) Do you have elderly (dependent) relatives / friends living with you ?

YES NO

(ii) If YES...,
How satisfied are you with their care arrangements overall ?

Extremely Very Satisfied Not very Very
Satisfied Satisfied Satisfied Dissatisfied

10. *Domestic Work*

(i) Do you have domestic help at home ? YES NO

(ii) How many hours per DAY do you yourself
spend on housework and / or childcare ?

(iii) How satisfied are you with your spouse / partner's contribution to
housework ? (If no Spouse / Partner, go to Q.11)

Extremely Very Satisfied Not very Very
Satisfied Satisfied Satisfied Dissatisfied

(iv) How satisfied are you with your spouse / partner's contribution to
childcare ?

Extremely Very Satisfied Not very Very
Satisfied Satisfied Satisfied Dissatisfied

11. Are you satisfied with the amount of time you have for yourself / leisure ?

Extremely Satisfied Very Satisfied Satisfied Not very Satisfied Very Dissatisfied

12. How satisfied are you with your current (main) job ?

Extremely Satisfied Very Satisfied Satisfied Not very Satisfied Very Dissatisfied

13. How satisfied are you with your overall career plan ?

Extremely Satisfied Very Satisfied Satisfied Not very Satisfied Very Dissatisfied

14. How satisfied are you with your level of pay ?

Extremely Satisfied Very Satisfied Satisfied Not very Satisfied Very Dissatisfied

15. What are the main sources of satisfaction for you in your job ?
Please list in order of importance :

- 1
- 2
- 3
- 4
- 5

16. (i) How supportive is your spouse / partner of your job demands ?
(If no spouse / partner, go to Q 17.)

Extremely Supportive Very Supportive Quite Supportive Not very Supportive Not at all Supportive

(ii) Does your job cause conflict with your spouse / partner ?

YES NO

If YES, in what way ?
.....
.....
.....

17. *How generally stressful is your current job ?*

Extremely Very Quite Not very Not at all
Stressful Stressful Stressful Stressful Stressful

18. *What do you feel are the main sources of stress in your job ?
Please list in order of importance :*

- 1
- 2
- 3
- 4
- 5

19. *How stressful is your home / family life ?*

Extremely Very Quite Not very Not at all
Stressful Stressful Stressful Stressful Stressful

20. **(GPs only)**

How stressful do you find night visits ?

Extremely Very Quite Not very Not at all
Stressful Stressful Stressful Stressful Stressful

21. *Have you ever experienced sexual harassment at work ?*

YES NO

22. (i) *How well do you feel you cope with stress in general ?*

Extremely Very Quite Not very Not at all
Well Well Well Well Well

(ii) *What strategies do you use to cope with stress at work ?*

Please list in order of importance :

- 1
- 2
- 3

And at home ?

- 1
- 2
- 3

23. *Have recent changes in the Health Service affected your day to day job ?*

YES NO

If YES, in what way ?

- 1
- 2
- 3
- 4
- 5

24. *What are the main advantages / disadvantages of being a female (male) in medicine ?*

advantages

disadvantages

- | | |
|---------|---------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |

25. *Do you think women (male) doctors in general practice experience more or less stress in their work than male colleagues ?*

More stress The same stress Less stress

26. *Do you think women (male) doctors in hospital medicine experience more or less stress in their work than male colleagues ?*

More stress The same stress Less stress

27. *Role Conflict / Overload : Your Job*

Please mark the line as indicated to show how these descriptors apply to you in respect of your work .

Example

Happy _____ / _____ Unhappy

- | | | |
|----------------------|-------|--------------|
| 1. Disorganised | _____ | Organised |
| 2. Assertive | _____ | Unassertive |
| 3. Taken for granted | _____ | Valued |
| 4. Strong | _____ | Weak |
| 5. Lack control | _____ | In control |
| 6. Active | _____ | Passive |
| 7. Hassled | _____ | Calm |
| 8. Aggressive | _____ | Compliant |
| 9. Underused | _____ | Overloaded |
| 10. Satisfied | _____ | Dissatisfied |

28. *Role Conflict / Overload : Your Home Life*

Please mark the line as indicated to show how these descriptors apply to you in respect of your home life .

Example

Happy _____ / _____ Unhappy

- | | | |
|----------------------|-------|--------------|
| 1. Disorganised | _____ | Organised |
| 2. Assertive | _____ | Unassertive |
| 3. Taken for granted | _____ | Valued |
| 4. Strong | _____ | Weak |
| 5. Lack control | _____ | In control |
| 6. Active | _____ | Passive |
| 7. Hassled | _____ | Calm |
| 8. Aggressive | _____ | Compliant |
| 9. Underused | _____ | Overloaded |
| 10. Satisfied | _____ | Dissatisfied |

The following 2 questionnaires have been standardised in previous research with doctors and other occupational groups. Please answer the questions as they apply to your own situation.

29. JOB SATISFACTION QUESTIONNAIRE :
“How You Feel About Your Job”

This questionnaire is concerned with the extent to which you feel satisfied or dissatisfied with your job. Rate the items against the satisfaction / dissatisfaction scale provided, by putting a circle around the relevant number.

6 Very much satisfaction 5 Much satisfaction 4 Some satisfaction
 3 Some dissatisfaction 2 Much dissatisfaction 1 Very much dissatisfaction

1	Communication and the way information flows around your organisation	6 5 4 3 2 1
2	The relationships you have with other people at work	6 5 4 3 2 1
3	The feeling you have about the way you and your efforts are valued	6 5 4 3 2 1
4	The actual job itself	6 5 4 3 2 1
5	The degree to which you feel ‘motivated’ by your job	6 5 4 3 2 1
6	Current career opportunities	6 5 4 3 2 1
7	The level of job security in your job	6 5 4 3 2 1
8	The extent to which you may identify with the public image or goals of your organisation	6 5 4 3 2 1
9	The style of supervision your superiors use	6 5 4 3 2 1
10	The way changes and innovations are implemented	6 5 4 3 2 1
11	The kind of work that you are required to perform	6 5 4 3 2 1
12	The degree to which you feel that you can personally develop or grow	6 5 4 3 2 1
13	The way in which conflicts are resolved in your workplace	6 5 4 3 2 1
14	The scope your job provides to help you achieve your aspirations and ambitions	6 5 4 3 2 1

“How you feel about your job” (Contd..)

	6 Very much satisfaction	5 Much satisfaction	4 Some satisfaction	3 Some dissatisfaction	2 Much dissatisfaction	1 Very much dissatisfaction
15	The amount of participation you are given in important decision making					6 5 4 3 2 1
16	The degree to which your job taps the range of skills which you feel you possess					6 5 4 3 2 1
17	The amount of flexibility and freedom you feel you have in your job					6 5 4 3 2 1
18	The psychological ‘feel’ or climate that dominates your organisation					6 5 4 3 2 1
19	Your level of salary relative to your experience					6 5 4 3 2 1
20	The design or shape of your organisation’s structure					6 5 4 3 2 1
21	The amount of work you are given to do, whether too much or too little					6 5 4 3 2 1
22	The degree to which you feel extended in your job					6 5 4 3 2 1

(Turn to next page)

30. OCCUPATIONAL STRESS QUESTIONNAIRE :

"Sources of Pressure in Your Job"

The items below are all potential sources of pressure. Please rate them in terms of the degree of pressure you perceive each may place on you, by putting a circle around the relevant number.

6 Very definitely is a source 5 Definitely is a source 4 Generally is a source
3 Generally is not a source 2 Definitely is not a source
1 Very definitely is not a source

1	Having far too much work to do	6	5	4	3	2	1
2	Lack of power and influence	6	5	4	3	2	1
3	Overpromotion - being promoted beyond my level of ability	6	5	4	3	2	1
4	Not having enough work to do	6	5	4	3	2	1
5	Managing or supervising the work of other people	6	5	4	3	2	1
6	Coping with office politics	6	5	4	3	2	1
7	Taking my work home	6	5	4	3	2	1
8	Rate of pay (including perks and fringe benefits)	6	5	4	3	2	1
9	Personal beliefs conflicting with those of the organisation	6	5	4	3	2	1
10	Underpromotion - working at a level below my ability	6	5	4	3	2	1
11	Inadequate guidance and back-up from superiors	6	5	4	3	2	1
12	Lack of consultation and communication	6	5	4	3	2	1
13	Not being able to 'switch off' at home	6	5	4	3	2	1
14	Keeping up with new techniques, ideas, technology or innovations or new challenges	6	5	4	3	2	1
15	Ambiguity in the nature of the job	6	5	4	3	2	1

(Continued over the page)

“Sources of Pressure in Your Job” (contd.....)

6 Very definitely is a source 5 Definitely is a source 4 Generally is a source
 3 Generally is not a source 2 Definitely is not a source
 1 Very definitely is not a source

16	Inadequate or poor quality of training / management development	6	5	4	3	2	1
17	Attending meetings	6	5	4	3	2	1
18	Lack of social support by people at work	6	5	4	3	2	1
19	My spouse’s attitude towards my job and career	6	5	4	3	2	1
20	Having to work very long hours	6	5	4	3	2	1
21	Conflicting job tasks and demands in the role I play	6	5	4	3	2	1
22	Covert discrimination and favouritism	6	5	4	3	2	1
23	Mundane administrative tasks or ‘paperwork’	6	5	4	3	2	1
24	Inability to delegate	6	5	4	3	2	1
25	Threat of impending redundancy or early retirement	6	5	4	3	2	1
26	Feeling isolated	6	5	4	3	2	1
27	A lack of encouragement from superiors	6	5	4	3	2	1
28	Staff shortage and unsettling turnover rates	6	5	4	3	2	1
29	Demands my work makes on my relationship with my spouse / children	6	5	4	3	2	1
30	Being undervalued	6	5	4	3	2	1
31	Having to take risks	6	5	4	3	2	1
32	Changing jobs to progress with career	6	5	4	3	2	1
33	Too much or too little variety in work	6	5	4	3	2	1
34	Working with those of the opposite sex	6	5	4	3	2	1

(Continued over the page)

“Sources of Pressure in Your Job” (contd...../)

6 Very definitely is a source 5 Definitely is a source 4 Generally is a source
 3 Generally is not a source 2 Definitely is not a source
 1 Very definitely is not a source

35	Inadequate feedback about my own performance	6	5	4	3	2	1
36	Business travel and having to live in hotels	6	5	4	3	2	1
37	Misuse of time by other people	6	5	4	3	2	1
38	Simply being seen as ‘the boss’	6	5	4	3	2	1
39	Unclear promotion prospects	6	5	4	3	2	1
40	The accumulative effects of minor tasks	6	5	4	3	2	1
41	Absence of emotional support from others outside work	6	5	4	3	2	1
42	Insufficient finance or resources to work with	6	5	4	3	2	1
43	Demands that work makes on my private / social life	6	5	4	3	2	1
44	Changes in the way you are asked to do your job	6	5	4	3	2	1
45	Simply being ‘visible’ or available	6	5	4	3	2	1
46	Lack of practical support from others outside work	6	5	4	3	2	1
47	Factors not under your direct control	6	5	4	3	2	1
48	Sharing of work and responsibility evenly	6	5	4	3	2	1
49	Home life with a partner who is also pursuing a career	6	5	4	3	2	1
50	Dealing with ambiguous or delicate situations	6	5	4	3	2	1
51	Having to adopt a negative role	6	5	4	3	2	1
52	An absence of any potential career advancement	6	5	4	3	2	1
53	Morale and organisational climate	6	5	4	3	2	1

(Continued over the page)

“Sources of Pressure in Your Job” (contd.....)

6 Very definitely is a source 5 Definitely is a source 4 Generally is a source
 3 Generally is not a source 2 Definitely is not a source
 1 Very definitely is not a source

54	Attaining your own personal levels of performance	6	5	4	3	2	1
55	Making important decisions	6	5	4	3	2	1
56	‘Personality’ clashes with others	6	5	4	3	2	1
57	Implications of the mistakes you make	6	5	4	3	2	1
58	Opportunities for personal development	6	5	4	3	2	1
59	Absence of stability or dependability in home life	6	5	4	3	2	1
60	Pursuing a career at the expense of home life	6	5	4	3	2	1
61	Characteristics of the organisations structure and design	6	5	4	3	2	1

Thank you very much for your help in completing this questionnaire