

**STRESS AMONGST MEDICAL DOCTORS IN THE WESTERN CAPE**

BY

**ANEESA MUGJENKAR SUNGAY**

*Submitted in partial fulfilment of the requirements for the degree of*

**MASTER BACCALAUREUS COMMERCII IN INDUSTRIAL PSYCHOLOGY**



UNIVERSITY *of the*

**FACULTY OF ECONOMIC AND MANAGEMENT SCIENCES**

**DEPARTMENT OF INDUSTRIAL PSYCHOLOGY**

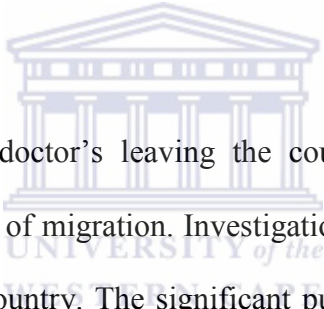
**UNIVERSITY OF THE WESTERN CAPE**

**SUPERVISOR: KARL HESLOP**

**NOVEMBER 2011**

## ABSTRACT

Numerous theories were established as to why doctors are leaving the country. A collection of stressors have presented itself and are seen as the contributing factors that lead to the outflow of doctors to other countries. Masia et al (2010) suggest that heavy workloads, after-hour calls, conflicts between work and personal lives, and dealing with life and death situations are stressors that form part of the daily routine of medical practitioners as well as financial pressures, insufficient budgets, a challenging working environment, information overload and threats of litigation can threaten the health and well-being of the medical practitioner.



Various reasons contributed to doctor's leaving the country and can be explained and addressed by the push-pull theory of migration. Investigations were conducted to identify the reasons for doctors leaving the country. The significant push factors that were identified as most frequently noted in investigations were poor remuneration and wages, lack of job satisfaction, lack of future prospects (further education and career development), poor working conditions, HIV/AIDS, lack of quality of life, high levels of crime and violence, civil conflict and political instability, and a decline in the quality of the school education system. Relevant non-financial incentives shown to be significant in retaining medical practitioners include support, teamwork and feedback from supervisors. Training and recognition was also noted by medical practitioners as deciding factors on whether to stay in a rural area.

South Africa has witnessed a major outflow of doctors that have left the country to seek employment elsewhere and has been seen as a potential problem for the near future. However, not enough research has been conducted to study the various sources of stress and determine ways in which to combat these stressors. This study aims to present an understanding of the various sources of stress that doctors face on a daily basis and also distinguish between various coping mechanisms.

A sample of 150 doctors was used for the purpose of this study and was selected primarily from 3 Western provincial hospitals. Informed consent was obtained from the relevant authorities before participating in the study. A 36-item Stressor Checklist and a Ways of coping checklist, which were adapted from previous research, were administered. No significant differences in sources of stress were found, although males evaluated their experiences as being more stressful. Significant differences were, however, obtained in terms of coping mechanisms utilised. Female doctors had a greater propensity to utilise problem- and appraisal-focused coping. However, males were more apt to utilise avoidance-coping. The research findings indicate a need for further research to be done, and can be highly beneficial for the purpose of therapeutic intervention.

**DECLARATION:**

I, Aneesa Mugjenkar Sungay,

Student number 2530818

Hereby declare that the thesis entitled,

**Stress amongst medical doctors in the Western Cape**

is the result of my own investigation and research and that it has not been submitted in part or in full for any other degree or to any other University.



**Aneesa Mugjenkar Sungay**

Signed: .....

Date: November 2011

## ACKNOWLEDGEMENTS:

I would like to extend my gratitude and appreciation to the following people and organizations, whose assistance, support and expertise facilitated the completion of this research:

To God, my provider and saviour, for providing me the opportunity to complete this thesis, and providing me with the health, strength, courage, determination, knowledge, skills, and everything that allowed me to complete it. Without him, I surely would not have been successful.



To my parents, I consider myself really lucky as God has provided me with so many sets of parents who have always supported me throughout the whole process and always encouraged and motivated me to succeed in all my Endeavour's and to never give up. I am truly grateful and would not have succeeded without them.

To my husband, who without fail, stood by me side by side through every challenge and every hurdle, held my hand and walked me through every step. Without him, this thesis would not have been complete.

To my sisters, who have always motivated and inspired me to complete and have always had the patience to deal with me through the process.

To my supervisor, my guardian angel, whose encouragement motivated me to always do my best despite any challenges that came my way. I could always count on him to always save me. Without fail he provided me his support whenever I needed any assistance.

To my friends, for their unwavering support, and friendship.

To the hospitals at which the research was conducted, and the doctors who participated in the study. Their contributions most certainly added to making this study a comprehensive one.



## TABLE OF CONTENTS:

Abstract	ii
Declaration	iv
Acknowledgements	v

### CHAPTER 1: INTRODUCTION AND OVERVIEW

1.1. INTRODUCTION	1
1.2. AIMS AND OBJECTIVES	4
1.3. HYPOTHESES	4
1.4. LIMITATIONS OF THE STUDY	5
1.5. STRUCTURE OF THE STUDY	5
1.6. CONCLUSION	6
1.7. SUMMARY OF CHAPTER	6

### CHAPTER 2: LITERATURE REVIEW

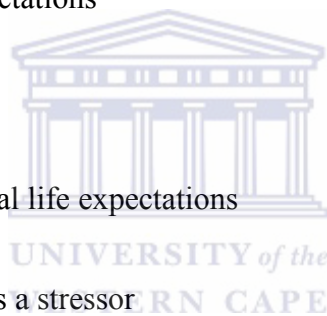
2.1. INTRODUCTION	8
2.2. DEFINITION OF STRESS	8
2.2.1. Alarm reaction	11
2.2.2. Resistance	11

2.2.3. Exhaustion	12
2.3. SOURCES OF STRESS	12
2.3.1. The work environment	14
2.3.1.1. Gender discrimination	14
2.3.1.2. Sexual harassment	16
2.3.1.3. Lack of support	17
2.3.2. Team Communication Problems	18
2.3.2.1. Lack of Team Stability	20
2.3.2.2. Intragroup Conflict	20
2.3.2.3. Intergroup Conflict	21
2.3.3. Nature of the System	21
2.3.3.1. Unit Stressors	22
2.3.3.2. Inadequate Resources/Training and Staffing	22
2.3.3.2.1. Lack of Adequate Staff	22
2.3.3.2.2. Lack of Adequate Training of Staff	23
2.3.3.2.3. Limited Resources	24
2.3.3.2.4. Budget Cuts	25
2.3.4. Communication problems with others in the hospital or outside the system	26
2.3.4.1. Problems in communicating with administration and other specialties	26





2.3.5.	Occupational stressors and professional roles	27
2.3.5.1.	Role ambiguity	27
2.3.5.2.	Role overload	27
2.3.5.3.	Role conflict	29
2.3.5.4.	Lack of control	29
2.3.5.5.	Role strain	30
2.3.5.6.	Shift work and long hours	30
2.3.6.	Patients and families expectations	32
2.3.6.1.	Age of patients	33
2.3.6.2.	Family and personal life expectations	33
2.3.7.	Patient illness and death as a stressor	34
2.3.7.1.	Type of illness	34
2.3.7.2.	Death as a stressor	35
2.3.7.3.	Malpractice	37
2.3.8.	Factors intrinsic to the job	37
2.3.8.1.	Working conditions	38
2.3.8.2.	Risk, Fear and Danger	38
2.3.8.3.	Technology	39
2.3.8.4.	Bullying amongst medical practitioners	40



2.4.	PHYSICAL MANIFESTATIONS OF STRESS	40
2.5.	PSYCHOLOGICAL MANIFESTATIONS OF STRESS	41
2.5.1.	Anxiety	41
2.5.2.	Depression	42
2.5.3.	Stress and impairment	42
2.5.4.	Burnout	43
2.5.5.	Suicide	44
2.5.6.	Alcoholism and Drug abuse	46
2.5.7.	Sleep deprivation	46
2.5.8.	Divorce	47
2.6.	COMMUNICATION PROBLEMS	47
2.7.	FINANCIAL STRESS	48
2.8.	COPING WITH AND MANAGING STRESS	48
2.8.1.	Maladaptive and Adaptive coping strategies in the medical profession	50
2.8.2.	Maladaptive coping strategies	52
2.8.2.1.	Denial	53
2.8.2.2.	Treating patients as non-persons	54
2.8.2.3.	Avoidance/distance from patient or family	55
2.8.2.4.	Narrowing the focus of the interaction	55



2.8.3. Adaptive coping strategies	56
2.8.3.1. Work-focused coping strategies	57
2.8.3.1.1. Role clarification	57
2.8.3.1.2. Co-operative work strategies / team building	57
2.8.3.1.3. Participative management	58
2.8.3.1.4. A sense of competence, control or pleasure from work	58
2.8.3.1.5. Departure from the job	58
2.8.3.1.6. Flexible work schedules	60
2.8.3.1.7. Increased education	60
2.8.3.1.8. Time management skills	60
2.8.3.1.9. Improved personnel selection	61
2.8.3.1.10. Goal setting	61
2.8.3.1.11. Redesign of jobs	62
2.8.3.1.12. Increased communication	62
2.8.3.1.13. Wellness programmes	63
2.8.3.2. Emotion-focused strategies	63
2.8.3.2.1. Self awareness	63
2.8.3.2.2. Relaxation	64
2.8.3.2.3. Assertiveness	65



2.8.3.2.4. Support systems	65
2.8.3.2.5. Group support and supervision	67
2.8.3.2.6. Peer support networks	67
2.8.3.2.7. Counselling	68
2.8.3.2.8. Adjustment	68
2.8.3.2.9. Physical exercise	69
2.9. SUMMARY OF THE CHAPTER	70

### CHAPTER 3: RESEARCH DESIGN

3.1. INTRODUCTION	71
3.2. RESEARCH OBJECTIVES	71
3.3. POPULATION	71
3.4. SAMPLE CHARACTERISTICS	72
3.4.1. Sample size	77
3.4.2. Sampling procedure	77
3.4.3. Snow-ball sampling	78
3.4.4. Considerations regarding sampling	79
3.5. METHOD OF DATA COLLECTION	80
3.5.1. Procedure for data collection	80

3.6. RESEARCH INSTRUMENTS	81
3.6.1. Biographical questionnaire	81
3.6.2. Stressor checklist	81
3.6.3. Coping styles and strategies	82
3.7. RATIONALE	83
3.8. RELIABILITY AND VALIDITY MEASURES	84
3.8.1. Test-retest reliability	84
3.9. STATISTICAL ANALYSES	85
3.9.1. Descriptive statistics	85
3.9.1.1. Frequencies	85
3.9.2. Inferential Statistics	86
3.9.2.1. t-test	86
3.10. ETHICAL ISSUES TO CONSIDER	86
3.11. SUMMARY OF CHAPTER	88



## **CHAPTER 4: PRESENTATION OF RESULTS**

4.1. INFERENCE STATISTICS	89
4.2. SUMMARY OF CHAPTER	118

## **CHAPTER 5: DISCUSSION, CONCLUSION AND RECOMMENDATIONS**

5.1. INTRODUCTION	119
5.2. DISCUSSION OF RESULTS	120
5.3. CONCLUSION	125
5.4. RECOMMENDATIONS	129
<b>6. REFERENCE LIST</b>	<b>132</b>



## LIST OF TABLES:

Table 4.1: Gender differences in stress	90
Table 4.2: Gender differences in Experiences of discrimination	91
Table 4.3: Gender differences in Experiences of Sexual Harassment	93
Table 4.4: Gender differences in Team Communication problems	94
Table 4.5: Gender differences in Nature of Unit	96
Table 4.6: Gender differences in Occupational role stressors	98
Table 4.7: Gender differences in Patients and Families' Expectations	100
Table 4.8: Gender differences in Type of Illness dealt with	101
Table 4.9: Gender differences in Extra-organisational	102
Table 4.10 (a) Top ten sources of stress (Females)	104
Table 4.10 (b) Top ten sources of stress (Males)	106
Table 4.11: Gender differences in Emotion-focused coping	108
Table 4.12: Gender differences in Problem-focused coping	109
Table 4.13: Gender differences in Appraisal-focused coping	110
Table 4.14: Gender differences in Avoidance coping	110
Table 4.15 (a) Top ten coping mechanisms (Females)	112
Table 4.15 (b) Top ten coping mechanisms (Males)	113

## LIST OF FIGURES:

Figure 2.1: Stress process	9
Figure 2.2: Seyle's General Adaptation Syndrome	10
Figure 2.3: Model of stress	13
Figure 2.4: Stress management	49
Figure 2.5: Individual stress management techniques	51
Figure 2.6: Organizational stress management techniques	52
Figure 3.1: Gender distribution	73
Figure 3.2: Age distribution	74
Figure 3.3: Marital distribution	75
Figure 3.4: Speciality	76



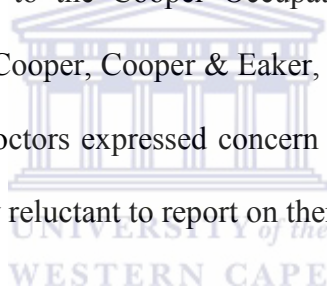


## **CHAPTER 1:**

### **INTRODUCTION AND OVERVIEW**

#### **1.1. INTRODUCTION:**

Recent research (Van Zyl, 2002) indicates that approximately 30-40% of South Africans suffer from high levels of stress. Kathrada (1991) maintains there is a growing need to recognise psychiatric morbidity in doctors, particularly with respect to stress. Stress among doctors is rated high according to the Cooper Occupational Stress Rating Scale, when compared with other categories (Cooper, Cooper & Eaker, 1988). However, Rucinski (1985), in an epidemiological study of doctors expressed concern about reliability, since doctors, as subjects of research, are generally reluctant to report on themselves.



An increase in medico-legal cases against doctors (Schmidt, 1995) and changes in the structure and provision of medical care necessitate a re-evaluation of the dynamic impact of the work environment on the efficacy of the delivery of such services by members of the medical profession. These changes in health care systems and the concomitant images of health care held by the general public, suggest medicine no longer commands such high regard, respect or prestige in contemporary society as in the past (Sutherland & Cooper, 1990).

Various accounts seem to be unequivocal and concur that the practice of medicine is generally perceived as being stressful (Krakowski, 1982; Bates, 1982). Limited attention has been accorded to sex differences in the experience of specific work stressors and the importance attached to each stressor (Richardson & Burke, 1991). Research evidence suggests sources of stress may be different for male and female doctors (Cartwright, 1987) and pressures may be greater for women. High levels of suicide, alcohol abuse and marital problems have been reported in the medical profession (Thapar, 1989; Richings, Khara & McDowell, 1986), with female doctors suffering more from depression than their male counterparts (Hendrie, Clair, Brittain & Fadul, 1990).

Since studies in the general population which correct for social differences such as education, age, marital status, occupation and career prospects show no difference between the sexes in prevalence of psychological morbidity (Wilhelm & Parker, 1989), it is likely gender-linked sources of stress such as poorer career opportunities, conflict between occupational and traditional gender roles, lack of female role models, sexual discrimination and prejudice from both staff and patients (Cartwright, 1987; Firth-Cozens, 1990) account for the different levels of stress between male and female doctors.

As women comprise an increasing proportion of the medical profession, it becomes increasingly interesting to inquire how they differ from their male counterparts with respect to sources of stress and coping mechanisms utilised (Uhlenberg & Cooney, 1990; Richman & Flaherty, 1990). Work stress associated with the profession of medicine and its concomitant consequences and implications for the quality of medical care have received increasing attention over the past decade (Richardson & Burke, 1991). According to Payne and Firth-Cozens (1987), it is

misleading and naive to investigate whether women doctors are more stressed than men, since it assumes male and female doctors are unitary groups and that stress is constant over the career trajectory. The question also underestimates the amount of stress that is linked to the work itself, that is, dealing with intense human emotions on a daily basis, professional responsibility, long hours, interruptions and emergencies. Notman, Salt and Nadelson (1984) maintain it is more productive to reformulate the enquiry and ask whether some of the sources of stress are different for men and women, and whether the coping strategies are distinctive.

Research suggests sources of stress may be different for male and female doctors (Cartwright, 1987), and the pressure may be greater for women. Research by Brink, Bradshaw, Benade and Heath (1991) revealed, 80,8 % of the 2 626 women doctors who were surveyed, revealed they had experienced problems or difficulties in their careers because they were female. This concurs with results obtained by the Council on Ethical and Judicial Affairs, American Medical Association (1994) in which approximately one-third of female students surveyed in a study of third year students felt they had been denied opportunities because they were women.

It has become evident that within the past couple of decades, South African qualified doctors are increasingly leaving the country. A significant continuous outflow of professional and technical skills started as early as 1994 already. It was reported in 2004 in a newspaper that by 2006 40% of physicians in South Africa would have left the country to establish employment elsewhere.

## **1.2. AIMS AND OBJECTIVES:**

The main objective of the study was to determine the levels as well as the sources of stress among medical practitioners. It further focuses on providing recommendations on how to cope with these pertaining issues and to assist in finding better ways to reduce stress as well as finding better ways to manage the stress that medical practitioners experience.

## **1.3. HYPOTHESES:**

An hypothesis can be defined as a logically conjectured relationship between two or more variables expressed in the form of a testable statement. Relationships are conjectured on the basis of the network of associations established in the theoretical framework formulated for the research study (Sekaran, 2001).

- There are significant differences in stress levels amongst male and female medical practitioners in the medical profession.
- There are significant differences in coping mechanisms utilised by male and female medical practitioners in the medical profession.

#### **1.4. LIMITATIONS OF THE STUDY:**

The study was conducted amongst doctors in the Western Cape. The primary limitation of the study relates to the use of a non-probability research design. This implies that the results emanating from the research cannot be confidently extrapolated to the population of doctors as circumstances in other environments may differ from the sample that was selected. The limitations of the study also include the relatively small sample size, unmatched gender ratio and the fact that the sample was not randomly selected. Hence the results of the study cannot be compared to doctors in a different environment and therefore the external validity of the study would be compromised.



#### **1.5. STRUCTURE OF THE STUDY:**

Chapter 1 provides an outline of the focus and motivation of the study. The objectives, hypotheses and limitations of the study are evaluated.

Chapter 2 explains the pertinent definitions and concepts that are involved when discussing stress and coping mechanisms used amongst medical practitioners. Literature with respect to stress amongst medical doctors is addressed.

Chapter 3 discusses the research methodology in detail. The sampling technique, data collection methods and research instruments are discussed. The various tests conducted in the statistical analyses are furthermore discussed.

Chapter 4 provides an overview of the results of this particular study.

Chapter 5 deals with the recommendations based on the findings of the study and the conclusions drawn from the results.

## **1.6. CONCLUSION:**

This chapter aimed to address the principal objectives of the research, the proposed motivation that was used for this study, and also intended to evaluate the hypothesis generated for the purpose of providing an answer for the research question that was investigated. The delimitations of the study were also looked at and highlighted areas of improvement with the intention of enhancing the scientific quality of the research conducted.

## **1.7. SUMMARY OF CHAPTER:**

The aim of this chapter was to provide a framework of the study with regards to the objectives, hypotheses and limitations. The following chapters further discuss the literature relevant to the variables of interest. This is then followed by an explanation of the research

methodology involved and was discussed comprehensively. The final chapter will suggest conclusions and recommendations of the study.



## **CHAPTER 2:**

### **LITERATURE REVIEW**

#### **2.1. INTRODUCTION:**

Medical graduates are preached by instruction and example that the practice of medicine takes first priority in their lives and that all other obligations are secondary. Many thrive on this singular devotion while others find themselves being distressed (Payne & Cozens, 1987). All health professionals experience stress. The very fact of caring for others in whatever capacity means that they are open to suffering from stress and stress related problems (Burnard, 1991). Firstly, a variety of definitions of stress will be presented. Secondly, different models of stress will be introduced. Thirdly, the sources of stress that is experienced amongst medical practitioners will clearly be discussed. Psychological manifestations experienced individually by health practitioners will also be investigated. Lastly, on the agenda, typical strategies for coping with and managing stress within the health profession will be addressed.

#### **2.2. DEFINITION OF STRESS:**

The influence of stress in the development of sickness has been recognized for centuries but it is only recently that its meaning and importance have come to be appreciated (Warshaw, 1982). Stress is drawn from the latin word stringere, which means to draw tight, and was used

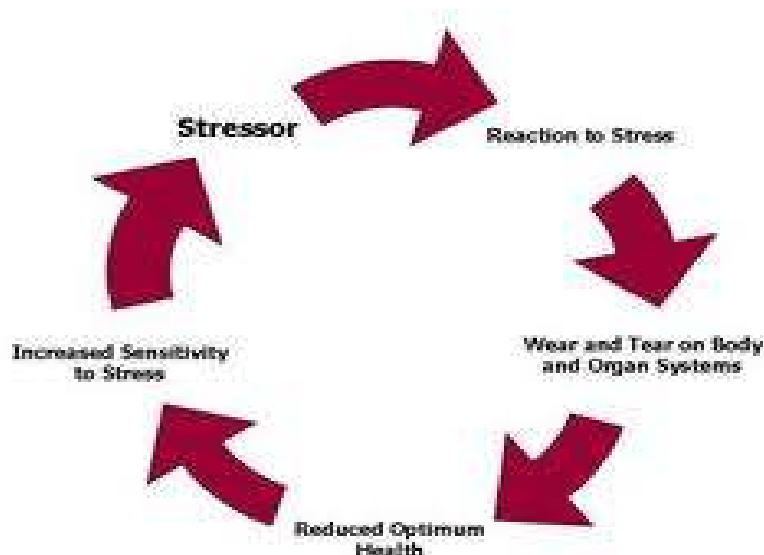


in the 17<sup>th</sup> century to explain hardships or affliction (Cartwright & Cooper, 1997). Hans Seyle defined stress as the: “general adaptation syndrome, a set of physiologic reactions induced by a broad variety of environmental agents” and also perceived it as the “non-specific response of the body to any demand” (Warshaw, 1982, p.11).

It is important to emphasize that stress is defined as the response to a stressor, a stimulus, or a set of circumstances that induces a change in the individual’s ongoing physiological and or psychological patterns of function (Warshaw, 1982). Hans Seyle viewed stress as “the non-specific response of the body to any change or demand. This means any change, positive or negative, can induce stress” (Bowman, Frank & Allen, 2002, p. 4). Figure 2.1 illustrates the stress process.



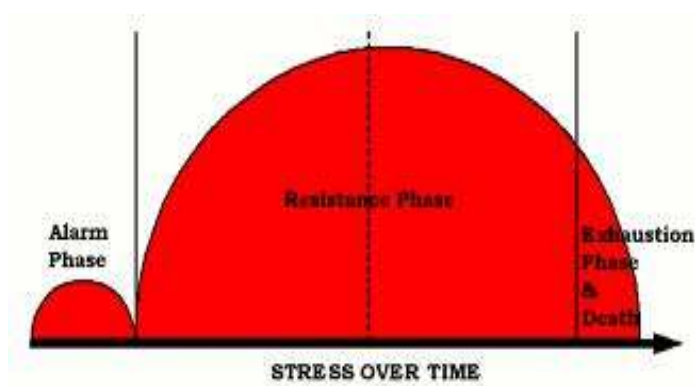
Figure 2.1: Stress process



According to Payne and Cozens (1987, p. 38): “Stress is seen in a transactional or ‘ecological’ sense as a mismatch between an individual’s perceived and actual capabilities, and the perceived and actual demands of the environment”. One of the most recent definitions of stress is postulated by Heslop (1995, p. 12), who perceives stress as “a process that occurs when there is an imbalance between demands and response capabilities of the organism”.

One of the primary scientific attempts to describe the process of stress related illness was developed by Hans Seyle in 1964. The physiological response to stress follows a fairly consistent pattern known as the General adaptation syndrome (Arnold & Feldman, 1986; Goldberger & Breznitz, 1982; Brown & Blakeman, 1983) which is typically represented as a triphasic adaptation process, during which an organism increases production of corticosteroids (epinephrine, norepinephrine) for the purpose of responding to an environmental stressor (Eliot, 1995). Three stages that an individual experiences in a stressful encounter have been identified, namely; Alarm reaction, resistance and exhaustion (Cartwright & Cooper, 1997). This is depicted in Figure 2.2.

Figure 2.2: Seyle’s General Adaptation Syndrome



### **2.2.1. Alarm reaction:**

This involves an initial phase of lowered resistance. This is then followed by counter shock, whilst the individual's defence mechanisms become active. In this stage the body recognizes the stressor and prepares to respond in the 'fight or flight' response and does so by sending signals over the body and as a result hormones are released from the endocrine glands. To prepare for this reaction, the body undergoes certain changes such as: increased heart rate, blood pressure and muscle tension, and corresponding decreases in maintenance functions such as: digestion and sexual responsiveness (Brown & Blakeman, 1983).



### **2.2.2. Resistance:**

Resistance is seen as a result of continued exposure of the organism to any noxious agent capable of eliciting the alarm reaction, a stage of adaptation or resistance ensues, which is portrayed by the body's adaptation response, manifestations of which are substantiated by the 'fight or flight' response. This stage depicts how the body tries to repair the shock caused by the stress as well as to return the homeostasis of the organism (Goldberger & Breznitz, 1982). This stage further involves maximum adaptation and involves a successful return to equilibrium for the person (Cartwright & Cooper, 1997). However, if there is a continuation of stress and if the defence mechanism does not succeed, the possibility of rest and repair will be prevented and one will proceed to the third stage (Goldberger & Breznitz, 1982).

### **2.2.3. Exhaustion:**

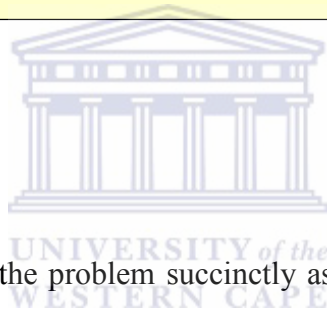
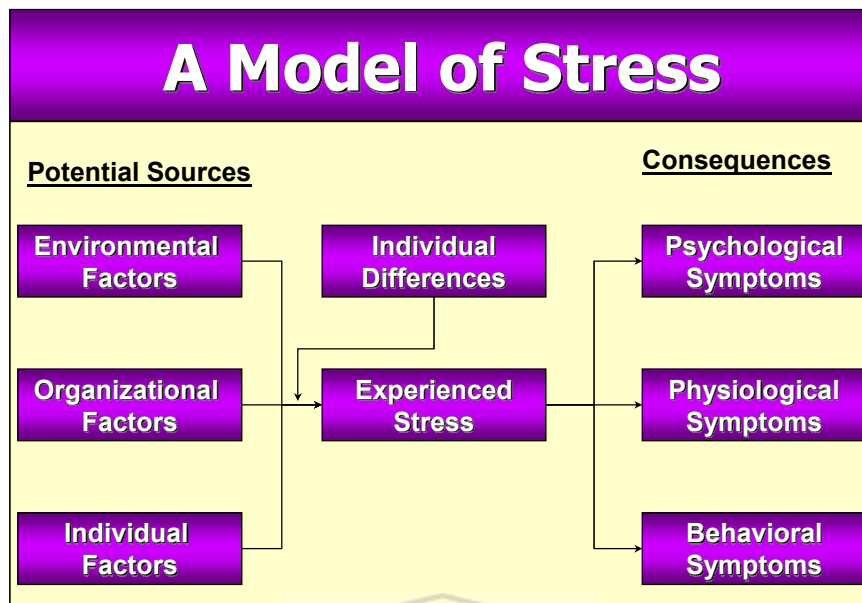
Subsequent to repeated exposure, the organism follows into the stage of exhaustion, which inescapably follows as long as the demand is severe enough and is applied for an appropriate length of time. Furthermore, if the stress continues for a long enough periods, the body's capacity for adaptation becomes exhausted (Arnold & Feldman, 1986). This takes place when adaptive mechanisms collapse (Cartwright & Cooper, 1997). Typically, the body's resistance level also progressively weakens and amounts to a greater predisposition for the body to become susceptible to diseases. As a result of this exhaustion, burnout is most likely to take place (Arnold & Feldman, 1986).



### **2.3. SOURCES OF STRESS:**

Various sources of stress were identified in the literature. The sources of stress in organizational settings and in the medical profession are however very similar, if not almost identical. The majority of writers explain the main source of stress to be health practitioners fighting against time pressures and having to make instant decisions that may affect patient care. Other sources of stress involve: financial restraints, professional administration, a lack of control of the environment, stress of medical school training, heavy workload, and sleep deprivation. Much research in the field of workplace stress in the medical profession suggests the major sources of stress that should be discussed. Figure 2.3 provides a model of stress which is discussed in the literature.

Figure 2.3: Model of stress



Heslop (1995, p. 17) recognizes the problem succinctly as it relates to medicine: “I believe that the stressors of medical practice result from one or more of the following situations peculiar to medicine: working with intensely emotional aspects of life governed by strong cultural codes of behaviour, such as: suffering, fear sexuality, and death; inadequate training for fundamental professional tasks, such as: handling ‘problem’ patients; and demands from society or patients that cannot be reasonably met, such as: the need for certainty when current knowledge allows only approximation”.

Evidence depicts that the sources of stress may be different for male and female doctors (Cartwright & Cooper, 1997), and the pressure may be more for women. The study for stress in women, illustrates that women are exposed to various potential sources of stress. This is

portrayed by finding that “in understanding stress...women drew on past and present: cultural prescriptions, images of women, demands of multiple caring roles, job demands and economic problems. They spoke of their own particular circumstances as well as the effects of broader social forces, whether these were definitions of appropriate gender roles or the effects of the economic recession and government policy. Mental health problems were seen as social in origin and, in turn, they were seen to influence physical health” (Walters, 1993, p. 37).

### **2.3.1. The work environment:**

While the work environment is not the only factor impacting on occupational stress, it is certainly a pivotal one. The work environment would entail the various issues that surround the professional on a day to day basis such as: Gender discrimination, sexual harassment, and lack of support.

#### **2.3.1.1. Gender discrimination:**

Working in a prejudiced, non-supportive environment which discriminates against women can often be seen as a source of stress. Physical illness and psychological impairment are more apparent when support is limited or absent. Even though there is generally more social support for women than in previous years, there still seems to be less support in later career stages. To support this, Brink, Bradshaw, Benade and Health (1991) further stated that 80.8%

of the 2626 women doctors, who were surveyed, showed their experience of problems and difficulties that they faced as a result of their gender. Even though prejudice has been reduced on entry, it still can be a pertinent factor for minority women who suffer from double dosage. This is evidenced by a study conducted of young black women doctors that showed that external prejudice was the most cited cause of stress (Payne & Cozens, 1987).

Gender discrimination is commonly more difficult to identify than sexual harassment. It may be subtle and is seldom stated. Women cannot usually define that they have been discriminated against. The unfavourable consequences of gender discrimination are explained in terms of job outcomes and advancement. However, this does apply to students in medical school as well (Bowman et al, 2002). It is reported that today, women make up over 50 per cent of those entering medical school (White, O'Connor & Garrett, 1997). Women physicians earn about three-quarter of what men do in the United States, and are away from their jobs longer. The difference in hourly wage is less dramatic, with women earning about 80% of men's hourly wage (Bowman et al, 2002).

White et al, (1997) stated that female undergraduates are seen as considering more successful than males in terms of completing medical school. Discrimination does not only take place among the staff, but may very well take place with patients as well, as some patients tend to discriminate as they prefer to see either only male or only female physicians or medical practitioners. Bowman et al, (2002) reported in a study that special preference was given for female physicians specifically and was particularly strong among African American male adolescents. Barriers for allowing women to enter medical training or to allocate senior posts

to trained women doctors existed in the past and may still be prevalent in some quarters today (Sanders, Barnes, Du Plessis, Muller & Mostert, 1990).

### **2.3.1.2. Sexual harassment:**

Sexual harassment has been experienced by students and resident doctors. To justify this statement evidence was illustrated by a single-school study of third year medical students, which involved 81.8% of female respondents that were subjected to sexist slurs, most repeatedly by clinical faculty and resident doctors or interns, and 55% reported having experienced or subjected to sexual advances. Studies of an internal medicine training programme showed that 73% of women and 11% of men who participated have been sexually harassed at least one time during their training program, some experienced in medical school and some during residency (Council on Ethical & Judicial Affairs, American Medical Association, 1994).

Sexual harassment is experienced by the majority of medical students and residents. In a previous study done at a medical school, it was found that; woman completing their clerkship year reported three times the rate of sexual abuse than men (Bowman et al, 2002). In general, physical harassment which involves touching has been the preferred use of abuse rather than verbal harassment. Sexual harassment not only appears to take place within the workplace from supervisors and colleagues, but from patients as well (Bowman et al, 2002). Bowman et al (2002) reported that a couple of women were inappropriately touched by patients from approximately 11 different medical schools. One particular school where women completing



their clerkship year reported three times the rate of sexual abuse as men (64% compared to 21%) (Bowman et al, 2002). Nine times as many females reported unwanted sexual happenings by school personnel (12.6% versus 1.4%) as male graduating medical students. This study discusses sexual harassment amongst medical practitioners.

The outcomes of these abhorrent behaviours are not fully known. Evidence has shown that in non-physician studies, psychological distress is apparent. Approximately, 1 in 10 women report transferring of different jobs as a result of sexual harassment (Bowman et al, 2002).

#### **2.3.1.3. Lack of support:**



Adequate social support can be vitally significant to the health and well-being of an individual and to the atmosphere and success in the workplace. Stebbing and Powles (2007, pp. 83-84) suggested that: “Providing a more supportive work environment with appropriate attention to workloads and provision of guidelines illustrating good practice in supervision may help to protect the health of medical staff doing research”.

Medical practitioners spend so much time at work; therefore the relationships that exist among co-workers can provide valuable support or conversely, can be a relevant source of stress in the medical profession (Cartwright & Cooper, 1997). According to Payne and Cozens (1987) causes of stress are experienced by the individual doctor and the degree to which he/she feels psychologically damaged depends on the interplay of a number of

personal characteristics and at the point of social support. Social support also plays an important role in eliminating the amount of stress with regard to life change.

A study was done that included foundation doctors working in a single health care trust. This study portrayed a lack of available senior support that had been identified by doctors as an important mediator of stress (Thompson, Corbett, Larsen, Welfare & Chiappa, 2009). Thompson et al, (2009) further stated that many times senior support is unavailable, which leads to a result of stress, especially when medical practitioners search for consultants and registrars that they do not know, and those that do not know them.

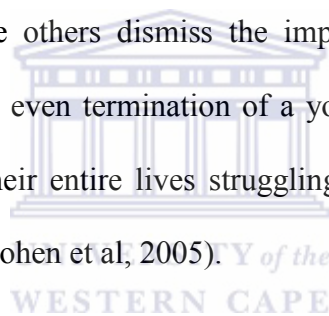
Some individuals seek and obtain support from families and/or friends to manage stress in order to maintain wellbeing, whereas others may lack support and experience more stress and devastation. Inconsistent levels of social support cannot always buffer stress and facilitate growth. Furthermore, low social support is incapable of preventing the negative impact of stress on well-being. Individuals with decreased levels of social support were found to be less likely related to healthy activities and engaged rather in activities such as: alcoholism, insomnia and fatigue. More research indicated that people with low social support were linked to life dissatisfaction and sometimes even suicidal behaviour (Chao, 2011).

### **2.3.2. Team Communication Problems:**

There has been a widespread call in recent years to better doctor's communication skills and deal with both the aspirations of the educator and the responsibilities of those that may serve as help when things go wrong (Cohen, Rollnick, Smail, Kinnersley, Houston & Edwards, 2005).

Trainers, supervisors and clinicians all observed that the problems related to communication do not appear in orderly packaged categories. The problem related to poor communication is complex, as some medical practitioners may lack the skills to communicate well with colleagues. However, personality and communication styles both are related to; the world of challenging relationships with colleagues, a stressful work environment, particularly demanding patients and the need to communicate across cultural boundaries (Cohen et al, 2005) .

Working in a complex environment is not always easy and challenges with communication can manifest in a number of ways. Those who do not communicate well can seem anxious, confused and under stress while others dismiss the importance of communication itself. Costly disruption and sometimes even termination of a young career is common. Qualified practitioners sometimes spend their entire lives struggling with issues related to perceived difficulty with communication (Cohen et al, 2005).



A lack of poor communication can be seen as an important source or consequence of stress found among acquired or merged medical practitioners. Team communication problems can result either because members do not know each other well and as a result do not acknowledge and realize each other's strengths. Repeated contact with one another and intense interchange in the absence of outside stimuli may alleviate problems (Vachon, 1987). Likewise, when medical practitioners experience elevated levels of stress, there is a propensity to withdraw, to communicate less effectively, or to distort communication (Cartwright & Cooper, 1997).

Payne and Cozens (1987) further suggested that senior members and team leaders were extremely stressed as a result of their poor communication with senior management. There are various underlying sources of team communication problems and are categorized according to some of the following sources: the lack of team stability, intragroup conflict and intergroup conflict (Vachon, 1987).

#### **2.3.2.1. Lack of Team Stability:**

Team communication sometimes becomes a problem when staff turnover takes place. This involves the entering or leaving of many members within the team and forces the team to be reconstituted. As a result of this, the new team member entering the group may feel like an outcast, feel isolated, and would experience constant comparisons made with the previous member who had left the group until new relationships are formed between the new member and the rest of the team (Ullrich & Fitzgerald, 1990).

#### **2.3.2.2. Intragroup Conflict:**

Conflict between physicians and attending physicians are apparent and is often concerned with patient care decisions. This conflict inevitably arises as a result of technical decisions concerning care, such as the relative value of one procedure or treatment over another, or over the physician's ethical responsibilities to the patient (The Council on Ethical and Judicial Affairs, American Medical Association, 1994). It is also stated by Martin and Julian

(1987, p. 138) that: “physicians accustomed to hierarchical models of patient care may be reluctant to participate as a member of a team”.

### **2.3.2.3. Intergroup Conflict:**

It is imperative for a good relationship to exist between medical students, resident physicians, and supervisors as this relationship is responsible for ensuring quality of medical education. In order to make sure that this takes place, supervisors and trainees must ensure that the goals of medical education are accomplished and at the same time guarantee open communication, clearly defined conceptions of their respective roles in patient care and a trust relationship with each other as well as with patients. Despite doctor’s awareness of these relationships, research shows that majority of the time these relationships cannot be maintained (Council on Ethical and Judicial Affairs, American Medical Association, 1994).

### **2.3.3. Nature of the System:**

Within certain departments or units, particular difficulties arise from the type of person or illness that is dealt with or is taking place within the unit, the tempo of the unit, the physical environment, and stressors intrinsic in the specific setting that doctors work in (Vachon, 1987).

### **2.3.3.1. Unit Stressors:**

A potential stressor may pose as the type of person or illness that may be dealt with in a unit. The rate at which a unit operates as well as the misfit between the person and environment, may also be seen as common stressors. Doctors with an internal locus of control may feel helpless and stressed in an environment that does not allow any control to be exerted while others may feel that they can uphold an external locus of control in the most demanding environments and may as a result function well in an environment that requires a response to a number of external stimuli (Vachon, 1987). The physical environment or design of a unit or department can also be seen as a major stressor (Sutherland & Cooper, 1992).



### **2.3.3.2. Inadequate Resources/Training and Staffing:**

Inadequate staffing, training and resources are a result of several deficiencies within the system such as: issues relating to fiscal restraint in the existing economic climate; a lack of sufficiently prepared staff and limited resources (Court, 1994).

#### **2.3.3.2.1. Lack of Adequate Staff:**

A repeated shortage of doctors seem to be evident in South Africa .One of the contributing factors towards this shortage is due to the fact that women only work for 65% of their career, whereas men work for 95% of their career (Ncayiyana, 2011). Ncayiyana (2011) further

suggested that it is time for medical schools to perhaps reconsider the gender ratio of entrants into the MB BCh programme.

Kemp (1992) suggests that inadequate staffing and resources can be seen as a major source of stress for doctors. Difficulty arises in certain units and result from the nature of the units and their lack of predictability. Forecasting then becomes difficult to conduct effectively. Ultimately this may lead to doctors and other medical staff working late hours. The shortage of staff then becomes a problem and may lead to the use of untrained people and as a result errors may be more prone to take place (Vachon, 1987).

Given the drastic shortage of doctors, it is essential that time spent visiting clinics is structured to achieve maximum benefits for both patients and clinic staff, in order to achieve sustainable improvements in quality of care (Nkosi, Horwood, Vermaak, Cosser & Haskins, 2009).

#### **2.3.3.2.2. Lack of Adequate Training of Staff:**

Potential sources of stress result from the process of professional training and include: examinations, inter alia, practical and various competency checks, sleep deprivation, financial pressure, and the lack of support and aversive input by faculty (Mawardi, 1979). A study in South Africa was conducted and it was revealed that doctors do not receive the necessary training for competence in end-of-life care regarding the loss of patients and coping with the families of the patients (Masia et al., 2010).

Another study was conducted in Cape Town to address the problem of inadequate ophthalmology training and inadequate eye care by primary health care doctors. However this situation is not unique to Cape Town as studies in the UK, Australia, New Zealand and USA have identified a similar situation. Effective decisions concerning workshops to improve primary health clinical and diagnostic skills in ophthalmology can be seen as effective in improving the skills of primary care physicians in these countries (Van Zyl, Fernandes, Rogers, Du Toit, 2011).

#### **2.3.3.2.3. Limited Resources:**

The lack of physical resources could stimulate stress responses in doctors. The availability of resources seems to be scarce in teaching as well as community hospitals and can have a tremendous effect on doctors. This then limits them from practicing the same medical care that they have used before in other hospitals (Sutherland & Cooper, 1992). Labuschagne, Robbete, Rozmiarek, Strydom Wentzel, Diedericks, & Joubert (2011) further state that: doctors in South African hospitals with restricted resources and huge numbers of patients are frequently subjected to adverse factors contributing to system, equipment and human errors, which as a result lead to stress and burnout and add to errors in the administration of anesthesia medication.

Doctors working in non-academic hospitals tend to experience limited resources and lead to consequences such as: inadequate promotional opportunities, poor salaries, and heavy schedules due to poorly equipped and understaffed hospitals (Kemp, 1992). More recent research has been done and show that limited resources continues to be a stressor for doctors.



Lepnurm, Lockhart and Keegan (2009) postulated that physicians naturally act as patient advocates; yet, they are expected to refrain from marginal uses of treatment resources for the sake of their colleagues with more severe patients, or for the purpose of controlling.

Chris Hani, one of the largest acute hospitals in the world was told that it is 9 year-old CT scanners were broken more often than not, that they lacked echo machines, operating theatres lacked sufficient anaesthetics equipment while incubators and other monitoring gear remained in critically short supply (Bateman, 2011). Bateman (2011) reported old, leaky buildings with some theatres that have been flooding for a very long time, terminal water damage to ventilators supporting high-tech equipment (that is, historically some CT scanners and as well as some air dryers in the neonatal unit), boilers were ineffective, compressors malfunctioned despite all the exhaustive written motivations by department heads.

Nkosi et al (2009) describe: “experiences of visiting clinics without essential equipment or a working telephone. Other suggested roles included checking equipment or availability of protocols and drugs, and other administrative roles”.

#### **2.3.3.2.4. Budget Cuts:**

Hospitals are continuously experiencing increased budget cuts that they have to adhere to. These budget cuts may possibly threaten the quality of patient care (Barbour, 1994). Research further suggests that the following responses were found among a proportion of the staff: increased voluntary resignations, reduced satisfaction, weakened loyalty to their duties, decreased productivity as a result to reduced effort on the job (Payne & Cozens, 1987).

#### **2.3.4. Communication problems with others in the hospital or outside the system:**

Due to the changing dynamic environment within which doctors work, this may result in interdisciplinary team communication problems. When medical practitioners are not available to communicate with each other during the process of decision-making, major problems are said to arise. These types of problems arise when there is no opportunity for the members to come together and develop a trust relationship. Communication may often take place when one professional group is hesitant to share information with other groups (Vachon, 1987).

While Barbour (1994, p. 229) worked in a seminal workshop on the effect of working with HIV/Aids, he stated the following: "...most of the stressors caregivers' report, when asked about the stress they experience in caring for the critically ill and dying, are not related directly to work with clients and their families but rather to difficulties with colleagues and within institutional hierarchies. In hospice, working in the team, which is thought to be major source of nurturance is, in fact, a major source of stress".

##### **2.3.4.1. Problems in communicating with administration and other specialties:**

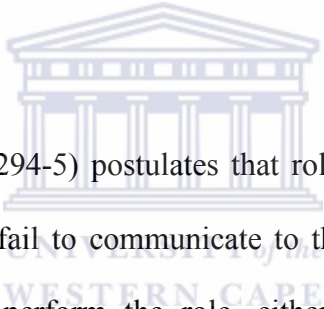
It is important to have a hierarchical structure of medical services and it is necessary for the efficiency of patient care. Problems of communicating is said to take place when different faculties are involved in patient care and may as a result impact doctors (Finn-paradis, 1987).

Furthermore, communication problems are present and may at times lead to a lack of recognition within a specific area relating to administration (Vachon, 1987).

### **2.3.5. Occupational stressors and professional roles:**

Role stress is theoretically composed of role ambiguity, role overload and role conflict.

#### **2.3.5.1. Role ambiguity:**



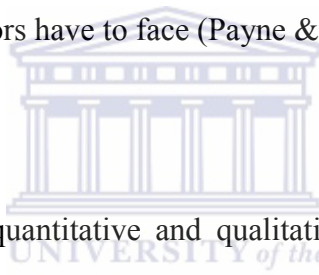
Kreitner and Kinicki (1992, pp. 294-5) postulates that role ambiguity typically takes place when: “members of the role set fail to communicate to the focal person expectations they have or information needed to perform the role, either because they do not have the information or because they deliberately withhold it”. Stress relating to role ambiguity is apparent resulting from the transitional responsibilities and relationships co-existent with the development of primary health care teams (Payne & Cozens, 1987).

#### **2.3.5.2. Role overload:**

Role overload is seen as one of the most common complaints among doctors. Masia et al, (2010) supports this statement by mentioning that senior doctors and consultants undergo added amounts of stress by being placed in roles of authority and obtaining the responsibility

to enforce or make decisions and at the same time try to develop a teamwork approach by also allowing the younger doctors the opportunity to learn. Burnout may be caused by role strain in medical doctors when there is a gap between expectations and performances, between promise and delivery, and between values and norms.

The impact that workload of medical practitioners are seen to be crucial in determining job satisfaction (Groenwegen & Hutten, 1991; and Norman, Fitter & Wall, 1991). Some studies show that the largest cause of job dissatisfaction in a group of 180 physicians who were examined are due to limited personal free time, being on-call and adapting to a heavy workload. Along with the enormous workloads that are placed on medical practitioners, are stringent time pressures that doctors have to face (Payne & Cozen, 1987).

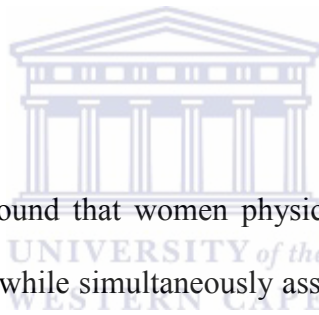


Heslop (1995) states that both quantitative and qualitative work load cause at least nine various symptoms of psychological and physical strain such as: job dissatisfaction, job tension, lowered self-esteem, threat, embarrassment, high cholesterol levels, increased heart rate, skin resistance and more smoking. Stemming from major workloads, smoking is said to increase and a positive relationship is said to exist between workload and the number of cigarettes smoked (Dekker, Looman, Adriaanse & van der Maas, 1993).

Furthermore Payne and Cozen (1987, p. 23) commented that: “medicine is a demanding mistress, any doctor who is unable to make the commitment necessary for the patient whenever he is needed is better off in some other field of endeavour”.

#### **2.3.5.3. Role conflict:**

Role conflict is said to exist when different people expect various different things from a particular person (Kreitner & Kinicki, 1992). Kahn (1973 cited in Heslop, 1995, p. 32) has claimed that: “persons subjected to high role conflict report greater job related tensions, lower job satisfaction, less confidence in the organization itself, and more intense experience of conflict”. Research indicates that in dual marriages, the professional wife allowed her husband’s career to advance. Another cause of stress that women in dual marriages experience is the expectation of domestic duties as a result in traditional marriage assumptions.



Payne and Cozens (1987) also found that women physicians spend 90% as much time in medical practice as their spouses while simultaneously assuming full responsibility for home and family duties.

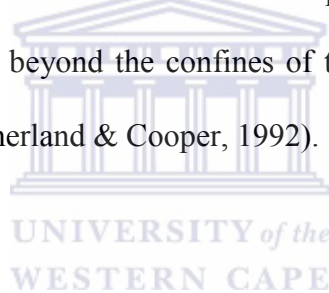
#### **2.3.5.4. Lack of control:**

The exertion of control over clinical practice is not possible for all doctors. Medical practitioners may find themselves in positions where they would be forced to perform procedures even if they are hesitant, and this may lead to increased levels of stress. Heslop (1995) further postulated that the exposure to severe stressors uncontrollably distorts the perception of control, leading to feelings of helplessness, which, as a result, lead to the progression of depression and anxiety. This can be further explained as Masia et al (2010)

portrays specifically that medical practitioners often undergo a sense of powerlessness when they are not able to change the final outcome for the patient, especially death. As a result medical practitioners suffer from guilt, incompetence and feelings of failure as well as feelings of helplessness when a patient does not live.

#### **2.3.5.5. Role strain:**

Role strain often relates to the difficulty of decision-making amongst medical practitioners and is a major source of stress. Role strain not only takes place in the period of the medical practitioner's job but also may result when there is an expectation from the professional to continue to perform in their role beyond the confines of the clinical environment (Vachon, 1987; Payne & Cozen, 1987; Sutherland & Cooper, 1992).

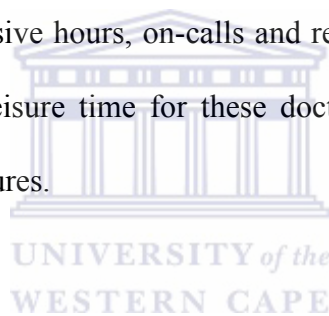


#### **2.3.5.6. Shift work and long hours:**

Many workers in the health profession have jobs that require them to work in shifts, some of which requires them to go around the clock and demand lengthy hours from these workers. Shift work is a typical source of occupational stress and in turn affects the blood, temperature, metabolic rate, blood sugar level, mental efficiency, work motivation, sleep patterns and family social life. Furthermore, long hours also tend to take a toll on the health of the medical practitioner such as medical residents that have no sleep for 36 hours or more and may eventually cause lowered efficiency at work (Cartwright & Cooper, 1997).

These stressors may also lead to the following effects in interns and residents: diminished ability to learn, adverse effects on the delivery of medical care and decreased capacity to respond to urgent problems (Payne & Cozens, 1987). Hospital doctors were more likely to feel hours of work, for example on-calls and fatigue, as a source of pressure. As 93 per cent of the Health Doctor's were full-time, compared to only 36 per cent of the GPs, this was expected (Payne & Cozens, 1987).

White et al (1997) postulate that: medical practitioners are more likely to express regrets about becoming a doctor as a result of the long hours, on-calls and fatigue. Furthermore, it was reported that working excessive hours, on-calls and resulting fatigue, can lead to a lack of a necessary social life and leisure time for these doctors who may as a result lead to increased perception of job pressures.



Consequently, “since fatigue plays an important role in many errors, doctors should not work excessively long shifts, and should take precautions when tired, e.g. ask a colleague to perform repeat control checks together. “However, working long hours is usually beyond a doctor’s control” (Labuschagne et al, 2011, p. 327) .

AIDS has lead to an increase in numbers of patient deaths, and a higher burden of disease. This has added to the workload and in many cases also to the complexity of decisions (Stodel & Stewart-Smith, 2011).

Thompson et al (2009, p. 2) stated the following: “Past research identified long working hours as causing high levels of stress, but, with the reduction of the working week to a maximum of 48 hours, alternative causes, such as work intensity, good supervision and career concerns, need greater attention” . Despite the reduction of the total number of working hours, the time-related pressures of shift patterns and intensity remain (Thompson et al, 2009).

### **2.3.6. Patients and families expectations:**

Cooper and Marshall (1976) suggest that the responsibility of caring for people and their families throughout the illness process may enforce the stress of responsibility for others. Much recent and alternative evidence shows that there are various expectations from doctors for both patients and their families during their difficult times in hospitals. Isaac and Mash (2004) state in a study that was conducted at the Elsie's River Community Health Centre (CHC) in Cape Town, South Africa that most doctors are unaware of the needs that are required from grieving families or what they expect from the staff in the time of crisis. It is also extremely difficult for some doctors to break bad news to patients as it can be seen as a depressing task even though it is seen as a crucial part of emergency medicine. If the bad news is conveyed in the wrong manner, it may cause long lasting psychological effects on the family. Numerous frameworks have been developed to help medical practitioners with communication skills necessary to break bad news to patients and families.

The expectation of patients to improve in a short period leaves most medical practitioners with a feeling of personal failure (Bourne & Lewis 1977 cited in Heslop, 1995). Work



pressures are experienced as dissatisfaction and stressful toward doctors as a result from these expectations and demands made from doctors by patients and medical institutions (Richardson & Burke, 1991).

#### **2.3.6.1. Age of patients:**

During the process of dealing with young patients as well as their deaths, medical practitioners may experience emotional reactions towards patients. However, women seem to be greater emotionally affected by the treatment as well as deaths of young patients (Vachon, 1987).

#### **2.3.6.2. Family and personal life expectations:**



More recent evidence found, prevail that there is an expectation of women to have children and may impact their career. Bowman et al (2002) states that the decision to have children is a very personal one. Clearly, the time and financial commitment inherent in child rearing means forced prioritization once children are born. It becomes more difficult to work a physician's 60 to 70 hours a week and still have time for one self. It is also never understood how a person will personally react to the change in responsibilities and how much guilt will present in combining career and parenthood.

### **2.3.7. Patient illness and death as a stressor:**

The demands that exist from particular aspects of medical work can be seen as strenuous as a result of its continued need to rapidly make important and life threatening decisions even in the case of uncertainty (Richardson & Burke, 1991). Particular events witnessed by medical practitioners within the health profession such as: deformity, physical suffering and sometimes death can be seen as a distinguishing factor when comparing to other professions. Not only do they have to experience these situations but also inflict it through tests and medical procedures (Payne & Cozens, 1987).

Furthermore, some paradoxes exist in the practice of medicine that introduces role strain for the doctor. Stress was reported from participants resulting from attempts to meet the emotional demands of patients and families, and the necessary experience with death and dying (Masia et al, 2010).

#### **2.3.7.1. Type of illness:**

Another factor concerning patient illness that may aggravate stress is the type of illness that is dealt with by doctors. Women seem to be affected greater than men when undergoing experiences of disfiguring illnesses (Vachon, 1987). HIV/AIDS are currently seen as one of the major demanding illnesses. Barbour (1994, p. 223) proffers that: “Aids has specific characteristics that contribute to increased stress among caregivers. These include fear of

contagion, issues in sexuality, death and dying, stigma, exposure to alternative lifestyles and issues of confidentiality”.

Sadoh, Sadoh, Fawole, Oladimeji and Sotiloye (2009, p. 17) also stated the following: "Health care workers seemed to believe that the risk of contracting HIV was higher if an infected health care worker were to perform medical procedures on them, and fear of contracting HIV seemed to be the driving force for their negative attitudes".

#### **2.3.7.2. Death as a stressor:**

One of the major stressors that directly affect doctors is the experience of traumatic deaths of patients. This supports the contention that traumatic deaths cause the most distressing psychic pain as a result of the difficulties in integrating the change to internal meaning structures (Masia et al, 2010). This is evident as Masia et al, (2010, p. 357) further postulates that: "doctors experience underlying feelings of hurt, anger, frustration, remorse, sadness, guilt and unhappiness that seem to surface after death".

Kasket (2006) postulated that medical practitioners have enormous difficulty when dealing with death and dying. This can often be attributed to a lack of sufficient training in communication skills. However, death denial and death anxiety plays a major part in the stress of medical practitioners.

For most medical practitioners, facing death can be seen as too difficult and at times defend their anxiety through various forms of denial. Most doctors believe that by denying their stress, it can lead to a more comfortable lifestyle. Denial is a long dated phenomenon,

however the modern experience of death can be seen as a relatively new concept as it is different and seen as more difficult than it was even a generation or two ago. This is as a result of the involvement of science, machines and general technology that makes the profession a different world today than it was not so long ago (Kasket, 2006).

Kasket (2006, p. 138) found that: "doctors were resistant to and angry about her efforts to get access to their dying patients, sometimes flatly denying that they had any terminally ill patients on their caseload". Medical practitioners also report a pattern of reactions to patient death that is similar to the experience of losing a friend or a family (Kasket, 2006).

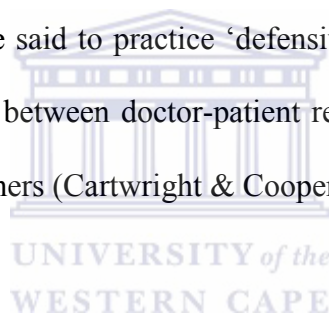
According to Kasket (2006) death seems to have a number of manifestations on the medical practitioner such as; appetite changes, sleep pattern changes, nightmares, body aches, energy loss, fatigue, recurring thoughts of the dead patient, guilt, irritability, anger, despair, emptiness, poor concentration, disturbances in the sense of time, feelings of unreality and of being shocked or numb, and loss of interest in sex, and feelings of futility, hopelessness and helplessness.

Moore, Castle, Shaw, Stockton, & Bennett (2008) reported that as a result of death experiences: "More than 40 per cent of doctors experienced sadness of moderate to severe intensity but between five and 17.5 per cent of doctors experienced other reactions, such as fatigue, problems in sleeping, changes in appetite, anger and relief".

### **2.3.7.3. Malpractice:**

The risk of being sued or any legal action being taken is apparent in the field of medicine among doctors if any mistakes are made with patients. HPCSA stipulates and states that: “medical practitioners whose conduct harms patients or puts patients at risk of harm should be disciplined. However, discipline should be based on evidence of the unethical action, and aim to promote professional ethical standards and the rights of all in South Africa” (London, 2010, p. 692).

This has had an enormous impact on the practice of medicine as it created fear amongst doctors. Medical practitioners are said to practice ‘defensive medicine’. This fear also tends to take a toll on the relationship between doctor-patient relationships. Furthermore this fear places stress on medical practitioners (Cartwright & Cooper, 1997).



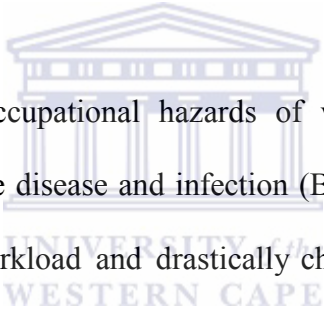
### **2.3.8. Factors intrinsic to the job:**

“Work-related stress can affect a doctor's health and result in poor morale and motivation, poor communication and decision-making as well as poor relationships with colleagues” (Stebbing & Powles, 2007, pp. 83-84). Prior to understanding work stress experienced within the health profession, researchers have studied that may be intrinsic to the job itself; such as poor working conditions; shift work and long hours; risk, fear and danger; new technology, work overload and death itself (Cartwright & Cooper, 1997).

### **2.3.8.1. Working conditions:**

Our physical surroundings or physical setting of the workplace such as: noise, bad lighting, smells, poorly designed work space and poor communication networking. These negative aspects of the working condition could lead to low morale of medical practitioners as well as cause an increase in absenteeism (Cartwright & Cooper, 1997).

### **2.3.8.2. Risk, Fear and Danger:**



All health professionals face occupational hazards of various sorts and therefore face problems associated with possible disease and infection (Burnard, 1991). Over recent years, HIV/AIDS has increased the workload and drastically changed or added tasks to already overburden health professionals. This is seen as another source of stress. Patient priority and care may be compromised if there are no protective steps. This is due to health professional's fear to save a bleeding patient as a result of HIV-Infection. The cause of this fear and stress is rooted mainly in lack of; knowledge, protective measures and emotional or technical support to deal with HIV/AIDS at work.

However, a study was conducted in 2005, within 3 academic hospitals in Johannesburg to measure the major causes of stress that affect medical interns and doctors. One of the contributing factors to stress was the following: "An alarming number of interns (69%) reported being directly exposed to HIV via a needle-stick injury or mucosal splash. Anxiety associated with such exposures was considered 'moderate' by 34%, 'significant' by 45% and

‘overwhelming’ by 21% of participants”. (Sun, Saloojee, van Rensburg, Manning, 2008, p. 33).

Regardless of the fact that health workers are still fairly motivated, there are signs of emotional exhaustion, particularly among counsellors and nurses. HIV/AIDS is seen to complicate the existing difficult work environment (Dieleman, Biemba & Mphuka, 2007).

### **2.3.8.3. Technology:**

Increased competition, cost containment pressures as well as “corporatization” of health care have contributed to the increase in technology in hospitals and in the workplace of medical practitioners. Even though this source of stress can be seen as “pushing medical practitioners together” it has also pushed them further apart. This has in turn placed enormous amounts of pressure and stress amongst these practitioners. Kovner and Neuhauser (1990, p. 316) proclaim “under pressures of cost containment, increased competition, continued changes in technology, and social and public expectations, physicians have become increasingly concerned about their roles as professionals, as artisans of their craft, as entrepreneurs, and even as bureaucrats”.

#### **2.3.8.4. Bullying amongst medical practitioners:**

Empirical research surprisingly indicated a vast amount of bullying amongst medical practitioners and specifically occurs amongst the junior health professionals. Stress caused from work place bullying junior health professionals may cause work-related stress and anxiety and have as a result lead to low morale and poorer work performance as well as affect the quality of care provided. “Stress and bullying lead to a cycle in which poor health may result and this may in turn result in an increased susceptibility to becoming a victim of bullying” (Stebbing & Powles, 2007, pp. 83-84).

#### **2.4. PHYSICAL MANIFESTATIONS OF STRESS:**



Both men and women react differently toward stress, are affected differently and appear to be more than a reflection of intensity of experience or of perceived threat (Baum & Grunberg, 1991). Studies have illustrated that medical practitioners are prone to coronary artery disease, strokes, ulcers, hypertension and more amongst occupants in the population (Cobb 1973 cited in Cherniss, 1980).

According to Brown-Baatjies, Fouché, Watson & Povey (2006, p128): “Illnesses commonly associated with stress include psycho-physiological disorders such as digestive system diseases, asthma and recurrent headaches. Chronic illnesses such as cardiovascular disorders and cancer have also been associated with stre



## **2.5. PSYCHOLOGICAL MANIFESTATIONS OF STRESS:**

According to Heslop (1995, p. 52), “stress culminates in emotional problems if people are subjected to high levels of stress at work”. The most often cited psychological manifestations of stress are anxiety, depression, suicide and lastly burnout.

### **2.5.1. Anxiety:**

Anxiety in doctors results mainly from the difficulty to make decisions. This is true, unlike other occupations; wrong decisions could have a greater impact and consequence to patients such as exacerbation of the disease or even death (Vachon, 1987). Study done in Buckinghamshire, United Kingdom, concluded that medical practitioners experienced a high level of anxiety and depression; and usually reported impaired quality of life. A lower quality of life can ultimately cause the individual decreased emotional well-being (Pretorius, Basson & Ogunbanjo, 2010).

It was also found that one in ten doctors in Cape Town prescribed anti-depressants for themselves. It can be concluded that medical practitioners, like their patients, are prone to experiencing depression and anxiety (Pretorius et al, 2010). According to Pretorius et al (2010) in healthcare, doctors were three times more likely to die of liver cirrhosis and twice as likely to die from road accidents compared to the general population as a result from anxiety.

Pretorius et al (2010, p. 447) also reported that: “there was a 10 to 15% prevalence of substance abuse disorders among physicians. In South Africa, research suggests a similar trend. In 2004, 50% of junior doctors (it was not specified at which level) in South Africa indicated that they used alcohol excessively and 10% used illegal drugs”.

### **2.5.2. Depression:**

Elevated levels of depression are common among medical practitioners in general. A study indicates that one of the main reasons why doctors take early retirement is as a result of depression, anxiety and alcoholism (Brown, 2008). Consequently occupational hazards should be dealt with at all levels in medical education concerning physicians encounter such as: the propensity to overwork, the dangers of access to narcotics, the ability to self-medicate for fatigue with minor tranquilizers and alcohol as well as to discuss how the stresses of the world of medicine can result in depression, anxiety, and marital problems (Alan Stoudemire, Rhoads, & Durham, 1983).

Women who typically experience gender discrimination tend to experience lower career satisfaction and professional confidence and may consequently suffer from depression (Bowman et al, 2002).

### **2.5.3 Stress and impairment:**

Payne and Cozens (1987) suggest impaired doctors are those with psychiatric disorders or illness, alcoholism, abuse of other drugs and suicide. Martin and Julian (1987, pp. 123-127)

state that: “Medicine may attract a certain psychologically and biologically vulnerable population. The medical education and training process may cultivate maladaptive coping mechanisms that put the vulnerable physician at greater risk for difficulty. Physicians are not selected for their abilities to be self-reflective and address their own needs. In fact, the opposite style of being other and action orientated is selected and cultivated”.

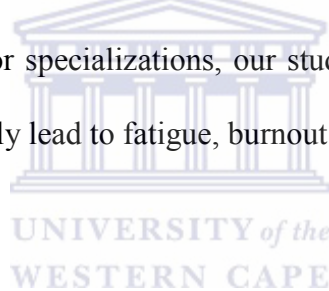
#### **2.5.4 Burnout:**

According to Burnard (1991) burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that may take place among individuals who work with people on a day-to-day basis. It is also known as a reaction to chronic emotional strain or being extensively exposed with other human beings, specifically when they are troubled or having problems.

Burnout tends to associate itself with working in caring profession such as the medical professions under considerable stress, for long periods of time (Burnard, 1991). According to Couper (2005) burnout is a result of multifaceted reasons such as: peer pressure, fear of failure, fear of success as well as self importance. Less appreciation from patients, a bulky number of patients dealt with and frequently confined and noisy surroundings are some factors which have also been found that result to burnout (Payne & Cozens, 1987).

Burnout can be detected at an early stage by observing the visible warning signs such as: loss of meaning, lack of focus and decreased efficiency, depleted inner resources, irritability, insecurity, mistakes and a lack of insight (Couper, 2005). Some other characteristics include: reduced motivation, a sense of narrowing choice of options, a feeling that one is acted upon rather than exercising choice (Burnard, 1991).

Bowman et al (2002) argue that burnout is apparent in physicians when they no longer care about their work and simultaneously become numb, as they have given of themselves until there is nothing else to give. Recent evidence discusses the issue of burnout in a study done by Lepnurm, (2009, p 178) and states that: “In addition to capturing the nature of stress experienced by most of the major specializations, our study also illustrated that cumulative levels of responsibilities eventually lead to fatigue, burnout risk, and negative effect”.



### **2.5.5 Suicide:**

A number of studies have been conducted to clarify physician suicide, with recommended contributing factors including: psychiatric disorders, substance abuse, alcoholism, stresses of practicing medicine, unrealistic expectations, role conflict, lack of professional support, inadequate psychiatric treatment, of physicians, resistance to psychiatric treatment, personality characteristics and psychosocial factors. Affective disorder, alcoholism and substance abuse come into view to be the most frequent psychiatric diagnoses among physicians who commit suicide (Bowman et al, 2002).

The UK Registrar General indicated in 1978 that doctors were three times more likely to die through suicide than the general population (Pretorius et al, 2010). However, the suicide statistics for women medical practitioners, particularly young women, are at most three times higher than for women in general. Whilst interpreting statistics it is shown that in general men are more expected to take their lives than women, while women are more pertinent to attempt the act but not complete it (Payne & Cozens, 1987).

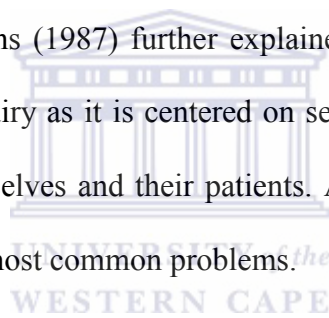
It was reported that a doctor dying of cancer in New Zealand, attempted to starve herself to death, which motivated that she was deeply depressed, as suicidal ideation ‘appears exclusively linked to mental disorder (Ncayiyana, 2011). Van Niekerk, Viljoen, Rischbieter, & Scribante (2008) indicated that a literature search revealed that medical students and doctors show a higher risk for suicide than other students and professions. This can be further elaborated as it was reported in 2005, that a 4th-year medical student at the University of Pretoria committed suicide a day before her mid-year exam. Her friends and classmates were shocked and experienced feelings of guilt for not recognising her distress. The news brought them to immediate shock as it was extremely unexpected and they never saw it coming.

Van Niekerk, et al (2008) also identifies numerous risks markers related to suicidal thoughts namely; perceived study strain, personality factors and the lack of social support. In a present study it has been reported that the prevalence of depression among South African health professionals to be 10 to 20%, and an unknown number contemplated suicide (Pretorius et al, 2010).

### **2.5.6 Alcoholism and Drug abuse:**

One of the most common consequences of stress as well as the most prevalent manifestations of stress is the tendency for medical practitioners to resort to alcohol and drugs as a ‘coping’ mechanism within stressful environments and situations. This tendency can be seen as threatening to the organization (Ullrich & Fitzgerald, 1990; Cartwright & Cooper, 1997; Finn Paradis, 1987; Sutherland & Cooper, 1992).

Drug and alcohol abuse problems are more dominant among male doctors though (Payne & Cozens, 1987). Payne and Cozens (1987) further explained that the literature on physician impairment is crucial to our inquiry as it is centered on several maladjusted physicians who could possibly do harm to themselves and their patients. Alcoholism, drug dependency and depression were reported as the most common problems.



### **2.5.7 Sleep deprivation:**

Payne and Cozens (1987) illustrate in a study of interns that sleep deprivation was found to be common who as a result felt relatively more fatigue and sadness and later developed numerous psychological abnormalities. The problems reported were affected thinking, depression, irritability, preferentiality, depersonalization, inappropriate affect and recent memory deficit (Payne & Cozen, 1987).

### **2.5.8 Divorce:**

Divorce is most likely experienced by medical practitioners (McCue, 1982; Modlin & Montes, 1964; Morse & Frost, 1978; Valliant et al, 1972 cited in Heslop, 1995). Consequently Payne & Cozen (1987, p.34) illustrates that: “strategies that reduce or eliminate the demand of intimacy also are more common in women. They are less apt to marry and utilize divorce more frequently. These statistics reflect, in part that the demands of intimacy are different for men and women. Women are culturally expected to perform more duties and services in the intimate relationship”.

### **2.6. COMMUNICATION PROBLEMS:**



Communication problems do not only occur within the team of individual medical practitioners but can also occur between the medical practitioner and the patient. Medical practitioners require better training in communication skills and breaking bad news, which should ultimately be done in an enclosed or private area. Medico-legal conflict usually occurs as a result of poor communication and tolerating the family to witness the resuscitation (Isaac & Mash, 2004).

Thomas and Valli (2006, p.1168) succinctly stated in an article that: “There were a lot of complaints about organizational structure and poor communication channels between management, doctors, other staff and other departments”.

## **2.7. FINANCIAL STRESS:**

The burden of financial stress starts way before the medical practitioners' even start with practice. According to Payne and Cozens (1987, p.34): "Eighty-eight percent of graduates incurred some debt before entering their internship year in an American medical school". The stress of finances which would traditionally reduce after a medical practitioner has graduated from their residency and are not so likely to diminish in the future practice of medicine, as they are currently facing a number of factors which did not previously exist such as: the reduced earnings of current physicians, competition from new hospitals and fee increases from government intervention to eliminate usual, customary and reasonable fee determinations etc; (Payne & Cozens, 1987).



Payne and Cozens (1987, p. 34) maintain that "when physicians evaluated their work, family life, social relations, leisure activities, physical health, mental health, finances, and life in general, on a seven point scale from terrible to delighted, physicians as well as the general population were least satisfied with finances".

## **2.8. COPING WITH AND MANAGING STRESS:**

Brown-Baatjies et al (2006, pp. 126–143) defined coping as the: "efforts that people make to manage situations that have been appraised as potentially harmful or stressful". He makes further reference to a similar definition that explains coping as: "active efforts to master, reduce, or tolerate the demands created by stress". Folkman (2010, p.902), defines coping:



“and refers it to the thoughts and behaviours people use to manage the internal and external demands of stressful events”.

These definitions indicate that coping concerns some form of activity, effort and planning. It is also significant to recognize that this effort does not necessarily imply a positive outcome and that coping is actually a lengthy process and eventually takes place over-time (Brown-Baatjies et al, 2006). Unresolved stress results in a variety of conditions, such as physical illness, depression and other mental illnesses, suicide, alcoholism and drug abuse.

According to Brown-Baatjies et al (2006, p. 128): “Factors that tend to mediate the stress–illness link include exercise, coping styles, social support, a hardy personality and a sense of personal control. The manner in which individuals choose to cope with stressors therefore plays an important role in their continued well-being”. Furthermore people make use of coping resources to enable them to handle stressors more effectively (Brown-Baatjies et al, 2006). To deal with unresolved stress, medical practitioners need to cope and therefore it is important to determine the precursor to and/or nature of coping (Pretorius et al., 2010).

Figure 2.4 illustrates the process of stress management.



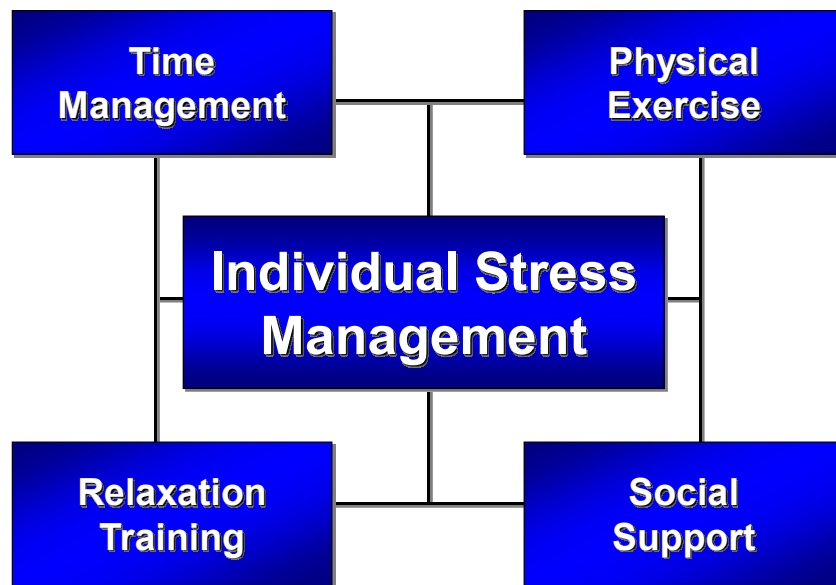
Figure 2.4: Stress Management

Coping mechanisms should enable doctors to understand and explore alternative coping strategies, and to share experiences constructively, in order to offer them a greater range of resources to draw on when facing future threats. Coping mechanisms can be divided and explained into two categories namely: Maladaptive coping strategies and Adaptive coping strategies.

### **2.8.1. Maladaptive and Adaptive coping strategies in the medical profession:**

According to Chao (2011), not all coping strategies are effective, some are productive and useful, whereas others are less so. Chao (2011) further proffers that the usefulness of a coping strategy relies on the degree to which it is appropriate to internal and/or external demands of a particular situation. Furthermore, he explained that certain responses to stress may tend to be maladaptive and some adaptive. Specifically, the tendency to focus only on venting frustration may be less useful to meet the demands of the situation. Avoidant coping refers to the strategies with little or no effectiveness. Figure 2.5 illustrates individual stress management techniques.

Figure 2.5: Individual stress management techniques



Sutherland and Cooper (1992) reported that male doctors seem to have a greater propensity to make use of dysfunctional or maladaptive coping mechanisms than woman doctors. Consequently, with regard to their environmental coping mechanisms there were equal responses on strategies; females were more prone to report team building, support and philosophy as being useful, even though these were significant strategies for both groups (Sutherland & Cooper, 1992). Figure 2.6 illustrates organisational stress management techniques.

Figure 2.6: Organisational stress management techniques



Cohen (2005) focuses on particular contextual factors that can affect which style of coping produces better adaptation. However, there is no coping style that is more adaptive across all situations. It is suggested that many different strategies, flexibility in coping, should be implemented and is seen as critical to effective coping. Furthermore a couple of relevant studies have been conducted to support the utility of flexibility.

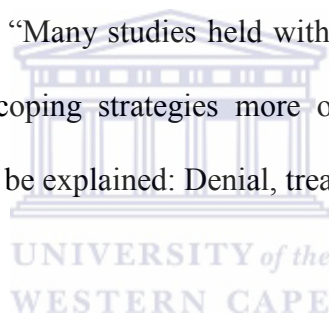
### 2.8.2. Maladaptive coping strategies:

Chao (2011) elaborated that certain responses to stress may tend to be maladaptive. To be specific, there is a tendency to focus only on venting frustration and can be seen as less productive when meeting the demands of the situation. Maladaptive coping refers to coping strategies that refer to little or no effectiveness. Maladaptive coping include the following

three considerations: focusing on and venting of emotions, behavioural disengagement, and mental disengagement. Focusing on and venting of emotions presents an indication as to how distress is essential in emotions without adaptive behaviours (Chao, 2011).

Whereas behavioural disengagement prevents the individual struggling with stress to deal with stress and as a result the stress still remains. An example of maladaptive coping behaviour is when an individual attempts to sleep away the stress. Mental disengagement removes stress out of sight by numerous activities ("out of sight, out of mind") (Chao, 2011).

Folkman, (2010, p.902) further postulated that: "maladaptive or emotion-focused coping is used to regulate negative emotion using strategies such as distancing, seeking emotional support, and escape-avoidance". "Many studies held with clinical samples have shown that this people use non-functional coping strategies more often" (Aydın, 2010, p.539). The following methods of coping will be explained: Denial, treating patients as non-persons.



#### **2.8.2.1. Denial:**

Doctors are hesitant to receive help when ill. They tend to self-medicate and they do not realize the seriousness of their condition. A perception in medicine among doctors exist, that all medical doctors should not get ill as it is perceived as a weakness and seen as letting their colleagues down. They never take any time off unless it becomes physically impossible for them to continue. An unwritten contract of denial exists with regards to ill-health with their colleagues at work (Brown, 2008).

Denial can be seen as highly correlated with depression, anxiety and stress. However, it would be beneficial to introduce interventions like psychological treatments or coping skills

training that would minimize these maladaptive coping mechanisms (Wong, Path, Beh, Cheung, Wong, Chan, Lieh Mak, 2005). Furthermore, Alan Stoudemire et al (1983, pp.655) stated that: "Some physicians may have certain psychological vulnerabilities that place them at a higher risk for both developing and consequently denying the presence of physical, emotional, and addictive illness".

Folkman (2010) further makes reference to denial and states that: "if people engage in denial, they will fail to engage in appropriate medical treatment and also that a person engaging in denial has to expend energy on avoiding evidence to the contrary".

#### **2.8.2.2. Treating patients as non-persons**

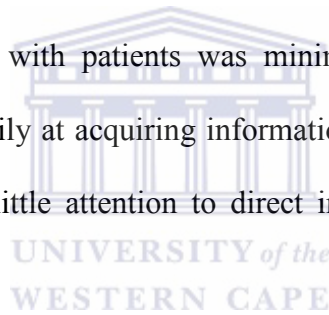
At times medical practitioners may develop additional coping techniques that may stay with them for the remainder of their careers. They learn to adopt scientific, technical language, which can transform a person into a case report or a collection of clinical information. They view people as 'cases' rather than persons (Kasket, 2006). Kasket (2006, p. 141) further stated that:" They use humour, often black humour, around the dissecting table – this is one way to talk about their feelings without really having to reveal their weaknesses in an academically competitive environment "

Kasket (2006) proffers: that a detachment-provoking defence coping strategy is used and is effective but is also valued and rewarded in medical academia and practice.

### **2.8.2.3. Avoidance/distance from patient or family:**

Medical practitioners cope with their stress intentionally or unintentionally by avoiding or psychologically distancing from patients. This is done for various reasons, but generally either consciously or unconsciously then tries to protect them from relating to patients and experiencing that such identification might precipitate (Payne & Cozens, 1987).

A common coping mechanism that is used on a day-to-day basis to distance themselves from patients as well as to cope with stress is called intellectualisation (Vachon, 1987). Mizrahi (1984, p. 8) report that “in analysing how internists cope with patients noted the amount of staff spent in direct interaction with patients was minimal, with the substance of these encounters being directed primarily at acquiring information directly related to the disease”. Medical practitioners pay very little attention to direct interaction with patients and their families (Mizrahi, 1984).



### **2.8.2.4. Narrowing the focus of the interaction:**

Patients tend to occupy an inferior position when concerning the doctor-patient relationship. This is as a result of their dependence on the doctor’s help. Some medical practitioner’s learn to use their dominant status to control their relationship with patients. Therefore medical staff tends to narrow the scope and substance of interactions to medically pertinent topics in order to extract all significant information in the shortest period of time. (Mizrahi, 1984).

### **2.8.3. Adaptive coping strategies:**

Adaptive coping strategies also called: approach-oriented coping is associated with positive adaptation of stress (Aydın, 2010). Research indicates that stress management programmes tend to be efficient when dealing with stress (Brown & Blakeman, 1983). Most of these types of programmes are based on the analogy that stress is inevitable but individuals can progress the way they perceive and react to those stressors.

Brown and Blakeman (1983, p.170) have noted that: “What seems to differentiate the more successful from the less successful in terms of coping with stress producing situations is their awareness of the stress potential in a situation, their sensitivity to their own reactions, and their capacity for alternative responses. Successful coping seems to be a skill in which there is some potential for learning and development on the part of the individual”.

Coping strategies have been viewed in terms of both emotion-focused and work-focused coping strategies. Work-focused coping strategies include, role clarification, Co-operative strategies/ teambuilding, participative management, a sense of competence, control or pleasure from work, goal setting, flexible work schedules, time management, assertiveness, adjustment, increased education, improved personnel selection, redesign of jobs, increased communication, wellness programmes, and departure from the job.



According to Kreitner and Kinicki (1992), research does not clearly indicate which type of coping strategy-control, escape or symptom management is more effective. Consequently, it is assumed that the best coping strategy depends entirely on the situation at hand. The following methods of coping below will be further explained.

### **2.8.3.1. Work-focused coping strategies:**

#### **2.8.3.1.1. Role clarification:**

Role clarification is responsible for changing the expectations of others within an organizational setting. A greater sense of competence is yielded from the knowledge of the individual's role and expected role performance, which adapts over time. This coping mechanism can be seen as a mechanism that suggests actively seeking to alter a portion of the medical practitioner's work environment (Arnold & Feldman, 1986; Vachon, 1987).

Arnold and Feldman, 1986; Vachon (1987) further proclaim that this in turn aspires toward career advancement and is advantageous in that it allows time to be controlled more flexibly. This ability pairs with an increase in status and ability to delegate to subordinates.

#### **2.8.3.1.2. Co-operative work strategies / team building:**

Belonging to a team that attain its mission (team philosophy), establishes how to get team members to focus towards defined professional and personal goals (team building) them and

knows how to support those around them professional and personally (team support); can all be seen as a form of environmental coping mechanism. “Effective teamwork requires sound procedures, agreed goals, support and trust, appropriate leadership and co-operation. Crucial, however, are the opportunities to build support networks and to allocate work appropriately” (Sutherland & Cooper, 1992, p. 307).

#### **2.8.3.1.3. Participative management:**

Autocratic managers seem to promote higher levels of stress compared to democratic managers. As democratic managers tend to support a team approach to patient care and allow for flexibility and autonomy among doctors (Finn Paradis, 1987).



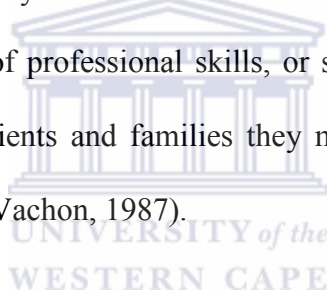
#### **2.8.3.1.4. A sense of competence, control or pleasure from work:**

According to Vachon, (1987, p.182) a sense of coherence or competence is described as: “a global orientation that expresses the extent to which one has a pervasive, enduring though dynamic feeling of confidence that one’s internal and external environments are predictable and that there is a high probability that things will work out as well as can reasonably be expected”.

Control can be considered as a relevant way of minimizing the consequences of stressors. Often doctors develop skills within the team in which they operate, and extend a sense of

control (Payne & Cozen, 1987). Once the professionals have established effective coping mechanisms, a degree of competence is gained in their professional roles and as a result achieves a sense of control over work. Once the professional reaches this stage, they are able to appreciate and thrive from the work situation. The pleasure that they receive from their work may emanate from contact with individual patients, groups of patients or their families that may be affected indirectly through teaching or administrative roles, or the satisfaction of using their own professional skills.

At this point they are able to derive pleasure from the work situation or in a job well done. The sense of pleasure in work may evolve either from their work with individual patients, from pleasure in the utilization of professional skills, or satisfaction with the direct impact their work has on groups of patients and families they might influence indirectly through teaching or administrative roles (Vachon, 1987).



#### **2.8.3.1.5. Departure from the job:**

Major stress experienced among medical practitioners can sometimes cause them to cope with their stress by either leaving the work situation temporarily or even permanently. Research shows that this coping strategy is more common in females than males. This is as a result of interruptions an opportunity for family planning and other extra organizational commitments (Vachon, 1987; Ullrich & Fitzgerald, 1990; Sutherland & Cooper, 1992).

#### **2.8.3.1.6. Flexible work schedules:**

Payne & Cozen (1987) found that women gave considerably more influence to three motivational factors that furthered into speciality concentration of women. This was as result from an amalgamation of sex-role compatibility, time pressures, formal organizational structure of the specialties and informal social pressures.

#### **2.8.3.1.7. Increased education:**

Most medical practitioners do not make the time for systems that assist with illness and failing doctors. Therefore, a cultural change in attitudes should be decided within the health service and the medical profession. However this can only be achieved through education at all levels of training and in return requires commitment and funding by doctors', leaders and teachers. This is crucial in order to consider caring for themselves as an integral part of all undergraduate and postgraduate training (Brown, 2008).

#### **2.8.3.1.8. Time management skills:**

Many individuals do not manage their time correctly and do not accomplish their tasks effectively as a result of this time management problem. If time is managed correctly, there should be sufficient time in the day or week to accomplish specific tasks in time. A well-organized individual can accomplish far more in the given amount of time to accomplish a

task (Robbins et al, 2003). Therefore, thorough utilization and understanding of basic time-management skills can be used to cope effectively with daily stresses.

The following time management principles seem to be in demand: constructing daily lists of activities that need to be done on a day-day basis, prioritizing activities in order of importance and urgency, scheduling activities according to the priorities obtained and knowing your daily schedule well enough to decide when to accomplish tasks when you are most productive (Robbins et al, 2003).

#### **2.8.3.1.9. Improved personnel selection:**



Certain individuals differ in their response to stress situations; hence certain jobs are more stressful than others. Selection and placement decisions should take in to account that people with an external locus of control tend to be more stressed than others. However, management should not restrict hiring to only experienced individuals with an internal locus of control, as these individuals may fit better with high-stress jobs and perform those jobs more productively (Robbins et al, 2003).

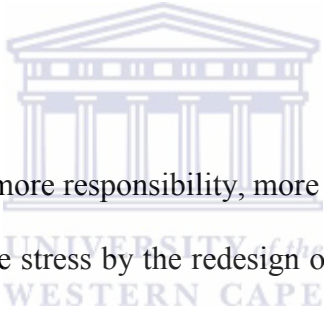
#### **2.8.3.1.10. Goal setting:**

Based on thorough research done, it can be deduced that individuals perform better when they have specific and challenging goals and receive feedback on how well they are

performing towards their goals. Goals can be seen as a positive form of motivation and is proved to reduce stress (Robbins et al, 2003).

Those particular goals that are perceived as attainable clarify performance expectations. If proper feedback is provided with regards to job performance, uncertainties can be reduced. The benefits that may result can be: less employee frustration, role ambiguity, and stress (Robbins et al, 2003).

#### **2.8.3.1.11. Redesign of jobs:**



Employees can be provided with more responsibility, more meaningful work, more autonomy and increased feedback can reduce stress by the redesign of jobs. This is all done to give the employee greater control over work activities and decrease dependence on others. However, not all employees' value enriched jobs (Robbins et al, 2003). The appropriate redesign then for employees with low need for growth might prefer less responsibility and rather increased specialization. If individuals prefer structure and routine, then it would be better to reduce skill variety. As a result, this should minimize uncertainties and stress levels (Robbins et al, 2003).

#### **2.8.3.1.12. Increased communication:**

Uncertainty can be reduced by decreasing role ambiguity and role conflict and in return formal communication will need to be increased (Robbins et al, 2003). Robbins et al (2003,

p.19) state the following: “Given the importance that perceptions play in moderating the stress-response relationship, management can also use effective communication as a means to shape employee perceptions”.

#### **2.8.3.1.13. Wellness programmes:**

Robbins et al (2003) suggests that supported wellness programmes should be offered. The main aim of these programmes focus on the employee’s total physical and mental condition. “For example, they typically provide workshops to help people quit smoking, control alcohol abuse, lose weight, eat better, and develop a regular exercise programme” (Robbins et al, 2003, p.19).



The main assumption underlying most wellness programmes aims to explain that employees need own personal responsibility for their physical and mental help (Robbins et al, 2003).

#### **2.8.3.2. Emotion-focused coping strategies:**

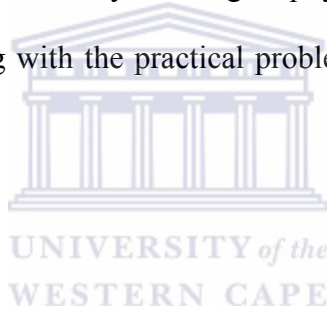
##### **2.8.3.2.1. Self awareness:**

Self-awareness can be seen as a means of helping to cope with stress. It can also help to realize the following:

It teaches the health professional to appreciate their 'ego boundaries', monitor themselves, notice when they are reaching their limits and can notice any kind of physical or psychological changes (Burnard, 1991).

#### **2.8.3.2.2. Relaxation:**

Stress frequently presents itself most clearly in the form of physical tension. Relaxation helps to feel relief from stress despite the various causes of stress, at least in the short term. Relaxation alone cannot cure stress but by learning to physically relax, the practitioner can become better prepared to coping with the practical problems that are often associated with stress (Burnard, 1991).



Relaxation can be used by individuals to reduce tension through techniques such as meditation, hypnosis, and bio-feedback. The goal of this technique is to reach a state of deep relaxation, where one feels physically relaxed, to some extent detached from the immediate environment and detached from body sensations (Robbins, Odendaal, & Roodt, 2003).

Robbins, et al (2003) suggests that fifteen or twenty minutes a day of deep relaxation, releases tension and allows an individual a pronounced sense of peacefulness. Significant benefits can result from achieving deep relaxation such as; changes in heart rate, blood pressure and other physiological factors.



#### **2.8.3.2.3. Assertiveness:**

Very often the needs of the medical practitioner become subsumed with the needs of the profession or the workplace. One positive way of coping with the challenges of stress is to learn how to become assertive. Furthermore, 'assertiveness' is often confused with 'aggressiveness'; however they are significantly different (Burnard, 1991).

#### **2.8.3.2.4. Support systems:**

Another positive way for medical practitioners to cope with stress is to talk about it to someone else. This will then lead to resolution of stress. Keeping feelings, thoughts and problems confined, will in turn lead to higher levels of stress and eventually could lead to burnout. Quite often, the confiding and sharing of issues with a relative, friend or colleague is all that is required from the health practitioner (Burnard, 1991).

Robbins et al, (2003) suggest that: "it provides you with someone to listen to your problems and offer a more objective perspective on the situation. Research also demonstrates that social support moderates the stress-burnout relationship. That is high support reduces the likelihood that heavy work stress will result in job burnout".

However, sometimes this is not possible as many health professionals work in confidence and believe that they cannot talk about their work-orientated problems with any individual at

home or relevant friend. Furthermore, a more structured approach can therefore be utilized in a given situation like this such as counselling (Burnard, 1991). Moores et al (2008) reported in a study that: communicating and opening up to others especially other medical practitioners, family and friends, yielded an 85.5 per cent of respondents that preferred coping strategy, followed by 64 per cent that preferred spending time alone or 36 per cent that preferred socializing. However Nine out of ten doctors, felt comfortable to discuss a disturbing patient death with members of their team.

Couper (2005, p.7) furthermore suggests that: “Most importantly, we need other people to support us. We need close friends, a partner or spouse, family, etc; who can draw us away from our doctor role, laugh and cry with us, and help us not to take ourselves too seriously, we need our own family doctor, whom we should visit regularly to ensure that we are looking after our own physical needs. We need to reflect and debrief – this can be done privately through journaling, or with someone else, be it a friend or a professional counsellor, who can help us reflect on a regular basis”.

However, Brown-Baatjies et al (2006) postulated that social support can be seen as a potential stressor for professional women. This can be as a result of a lack of time, energy or material and psychological resources to reciprocate the social support received. It is also found that at times they may experience stress because of negative communication and unmet expectations that results from the social relationships.

#### **2.8.3.2.5. Group support and supervision:**

An alternate way that medical practitioner's use to cope with stress is through the use of a support group. According to Burnard (1991) groups tend to meet on a weekly basis or may be a once off workshop which allows group participants to experience a range of issues concerning stress, including causes of stress and long-term strategies. Stodel and Stewart-Smith (2011) furthermore recommended that: a sense of community can be built in the workplace in order to cultivate social support networks. Social support from others has been found to be beneficial for health and well-being including stress control (Polman, Borkoles & Nicholls, 2010).



#### **2.8.3.2.6. Peer support networks:**

The use of informal peer support networks were reported by medical practitioners and were seen as their primary source of support and coping (Thompson et al, 2009). Thompson et al (2009, p.85) further stated the following: “you can’t have the same level of stress in the whole day, if I actually have a serious patient, the nurses are there around, and if I think I need a registrar opinion, they are always there, and if they can’t come because they are in theatre or casualty, they just give me advice”. Moores et al (2008) proposed that most senior doctors should also have a greater role to play in making sure colleagues affected badly specifically by a patient’s death are adequately supported.

#### **2.8.3.2.7. Counselling:**

According to Masia et al, (2010) psychological support or counselling can act as a protective measure against the negative effects of stress that medical practitioners experience as a result of working with trauma patients. Participants in a particular study conducted in Dr George Mukhari Hospital emergency unit in Ga-Rankuwa, South Africa, pointed out that they needed counselling to help them in finding a balance between caring for the dying patient, handling the patient's family and performing their academic or professional work (Masia et al, 2010).

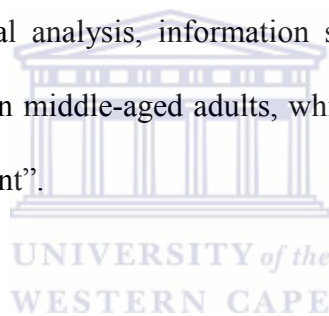
Modiba (2008) suggested that medical practitioners should be given adequate education about death and dying, or grief theory in order to effectively cope with the related stress. Feelings related to loss and coping strategies help medical practitioners to understand the need to develop adaptive coping mechanisms. The problem of ill-health has become well explored in recent years by doctors' representative bodies such as the BMA. Consequently, in 1996 a confidential counselling service for doctors was set up and was named 'Doctors for Doctors'. This service aimed to discuss personal, emotional and work-related problems. A BMA website also exists and lists many support organisations to assist the medical practitioner to deal with stress. Furthermore, some primary care trusts present confidential counselling for all their staff as well as support mentoring services for doctors (Brown, 2008).

#### **2.8.3.2.8. Adjustment:**

Brown-Baatjies et al (2006, pp. 126–143) define adjustment as “the dynamic process by which a person strives to satisfy inner needs through mature, efficient and healthy responses, while simultaneously striving to cope successfully with the demands of the environment in

order to attain a harmonious relationship between the self and the environment”. Good adjustment is implied when the development of healthy relations within the self and between the self and the environment. The opposites is said to take place when these relations are not sufficient, immature and unsuccessful and is called Maladjustment (Brown-Baatjies et al, 2006).

The degree to which an individual copes will determine the eventual level of adjustment that a person will attain. Furthermore personal resources such as active coping strategies and perceived social support can play a major role in coping with stress (Brown-Baatjies et al, 2006). Brown-Baatjies, et al (2006, pp.130-131) also indicated that “active or approach coping strategies, such as logical analysis, information seeking and problem-solving, are positively related to adjustment in middle-aged adults, while avoidance coping is negatively related to psychological adjustment”.



#### **2.8.3.2.9. Physical exercise:**

Non – competitive physical exercises such as: aerobics, walking jogging, swimming and cycling has been recommended by physicians as a means to terminate or lower stress levels. This is as result of the advantages that can be gained from physical exercise that combat stress by increasing heart capacity, lower at-rest heart rate, provide a mental diversion from work pressures, and offers a way to ‘let off steam’ (Robbins et al, 2003).

## **2.9. SUMMARY OF THE CHAPTER:**

In this chapter a thorough study of stress was brought across in attempt to provide a platform to better understand the reasons behind the various sources of stress. This chapter offers a comprehensive review of the literature concerning the sources of stress and coping mechanisms used by members of the medical profession and also suggests further methods used by doctors to overcome their stresses and anxieties on a daily basis.

It furthermore describes both adaptive and maladaptive coping mechanisms used by medical practitioners. Consequently it discusses work-focused and emotion-focused coping mechanisms that may be employed to better manage their stress. A specific type of coping mechanism that can guarantee the alleviation of stress should not be focused on, but rather a variety of coping methods should be considered to eliminate daily stressors that medical practitioner's experience.

## **CHAPTER THREE:**

### **RESEARCH DESIGN:**

#### **3.1. INTRODUCTION:**

This chapter aims to discuss the following: the objectives of the research, the research design issues that are pertinent to the study, a detailed explanation of the research sample and a description of the relevant sample characteristics. It then further addresses the procedure that is involved when conducting research as well as a description of the research instruments (data collection methods). Lastly, it looks at providing a further explanation on the quantitative statistical analyses which were used for the purpose of this study.

#### **3.2. RESEARCH OBJECTIVES:**

To determine the levels as well as the sources of stress among medical professionals in the health profession and to make recommendations as to how to cope with these pertaining issues in order to improve the overall performance, environment as well as the working conditions of medical professionals within the health profession.

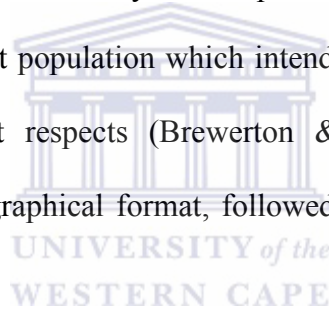
#### **3.3. POPULATION:**

A population can be defined as a group of individuals or items that share one or more characteristics and include all of the people inhabiting a specified area or study (Sekaran, 2001). He further defines population as “the entire group of people, events or things of

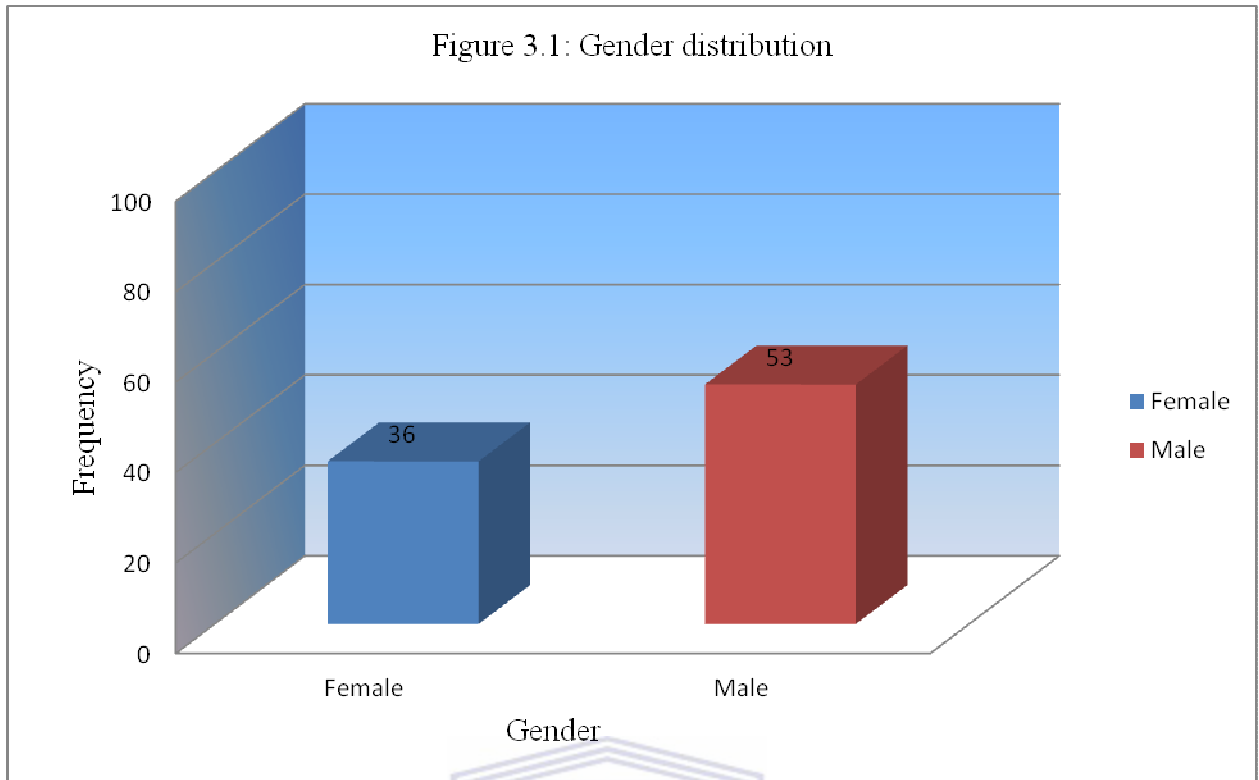
interest that the researcher wishes to investigate”. The population that is included in this particular study is medical professionals in both private and public hospital settings. The population that is will be used for the purpose of this study is 600.

### **3.4. SAMPLE CHARACTERISTICS:**

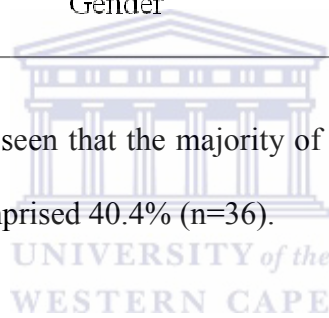
For practical and cost reasons, it may not be possible to obtain information about the entire population that is of interest. For this very reason a subset or sample of the population is usually selected for the purpose of a study. A sample can be explained as a selection of individuals drawn from the target population which intends to reflect the same population’s characteristics in all significant respects (Brewerton & Millward, 2001). The sample characteristics are presented in graphical format, followed by a brief overview of the most salient characteristics.







In terms of figure 3.1, it may be seen that the majority of respondents, that is 59.6% (n=53) were male, whereas females comprised 40.4% (n=36).



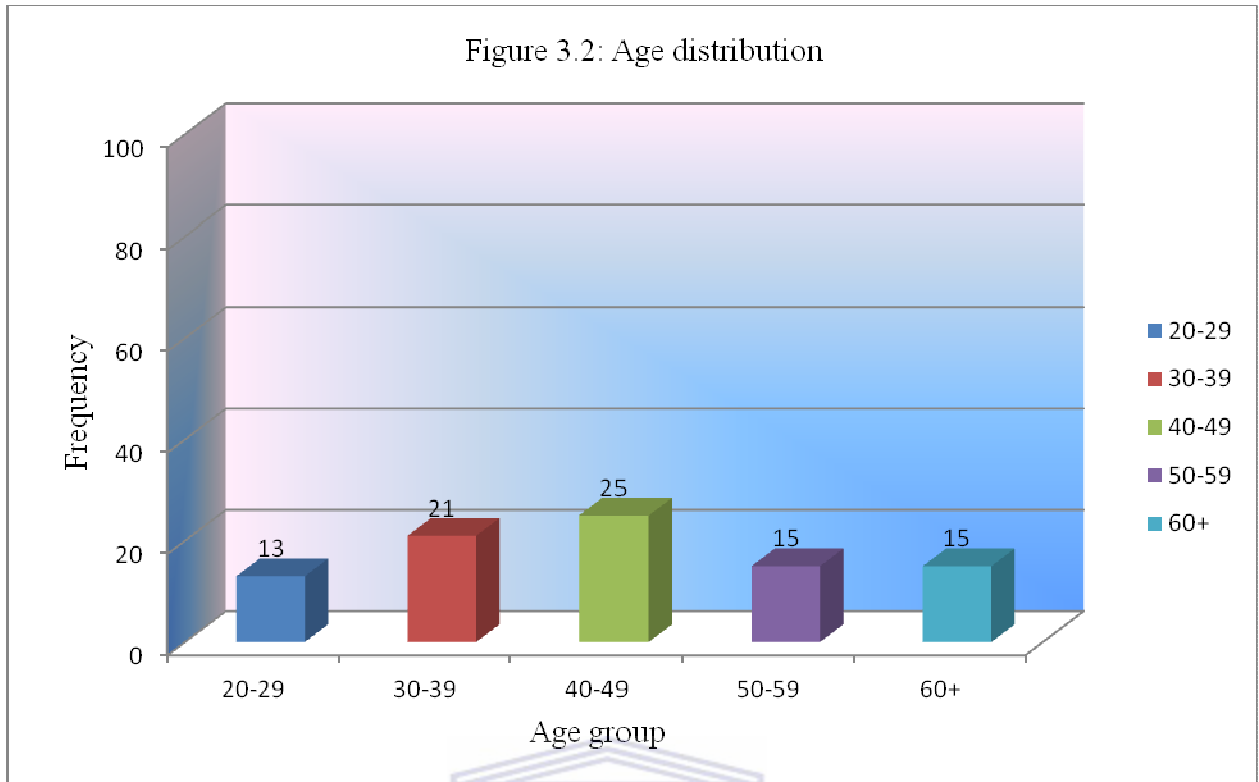
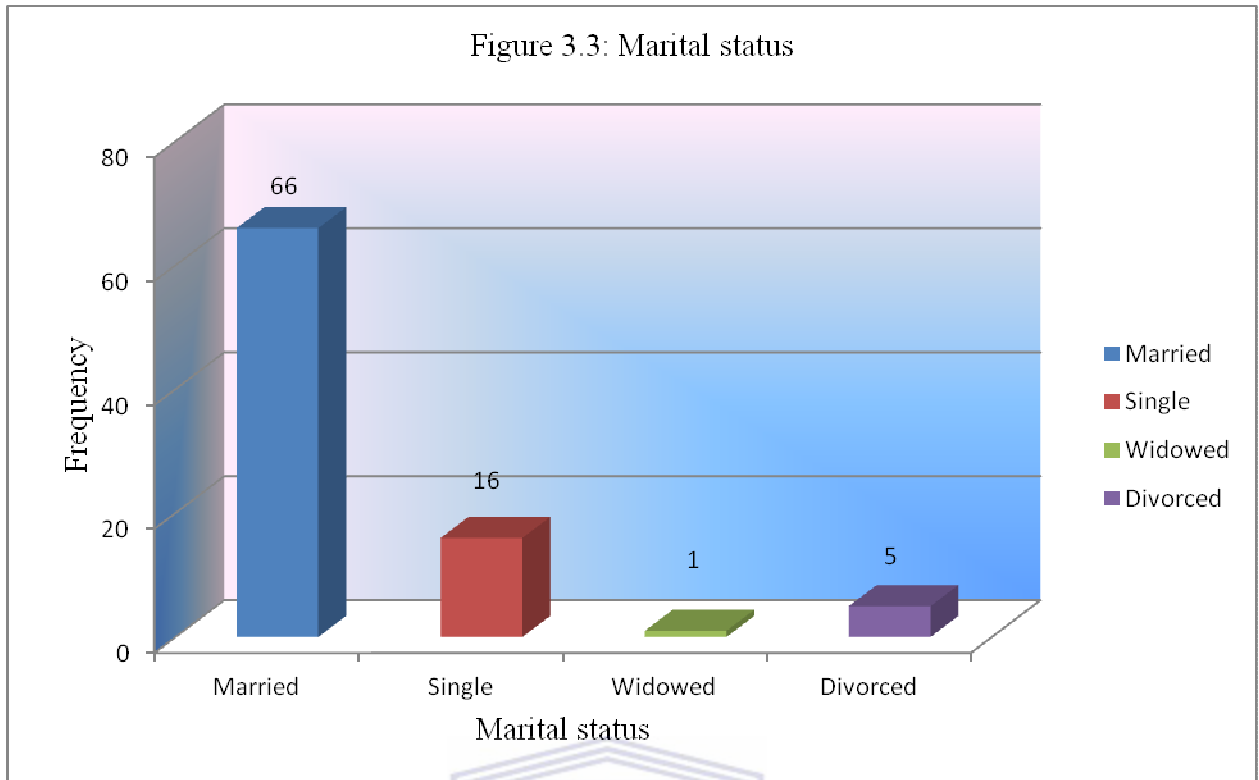
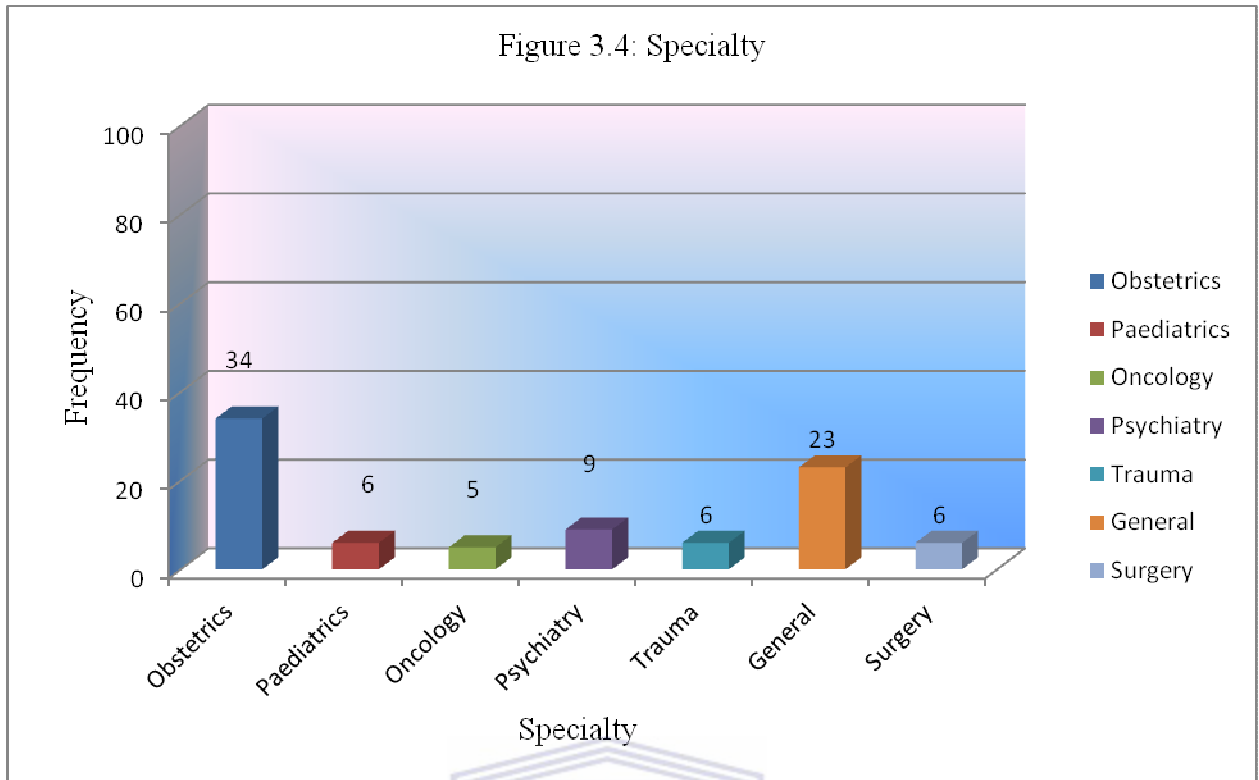


Figure 3.2 indicates that 28.1% of the sample (n=25) are in the age group 40-49, followed by 23.6% being in the age group 30-39 (n=21). Those in the age group 50-59 and 60+, constituted a further 23.6%, (n=15) respectively, with the smallest proportion being in the age group 20-29, comprising 14.6% (n=13).

Figure 3.3: Marital status



With respect to their marital status, the majority of the respondents were married, representing 74.2% of the sample (n=66), with 18% being single (n=16), 5.6% being divorced (n=5) and 1.1% being widowed (n=1).

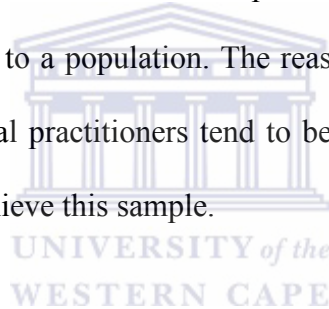


The speciality in which the doctors worked is depicted in figure 3.4. It is apparent that the majority of the respondents worked in Obstetrics, with this group representing 38.2% of the sample (n=34), followed by those in General, constituting a further 25.8% (n 23). The remaining categories contained smaller proportions, with those in Oncology comprising the smallest group, 5.6% (n = 5).

### **3.4.1. Sample size:**

The ideal sample size of 30 % is considered acceptable for most research purposes as it provides the ability to generalise to a population (Sekaran, 2001). The ideal sample size for the selected population of medical doctors in the Western Cape is therefore approximately 234 individuals.

Sekaran (2001) recommends that sample sizes of between 30-500 are sufficient and considers an ideal sample size of 30% to be considered acceptable for most research purposes as it provides the ability to generalise to a population. The reason for using a sample size of 234 doctors is simply because medical practitioners tend to be extremely busy most of the time and is therefore convenient to achieve this sample.



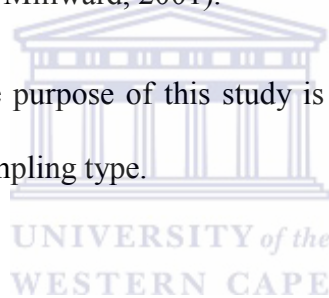
### **3.4.2. Sampling procedure:**

Traditional sampling methods can be divided into two broad categories namely: probability sampling and non-probability sampling. A probability or 'random' sample depicts a sample selected in such a way that all participants in the population receive a known or equal chance of selection or chosen as a subject. Probability sampling tends to be the preferable sample as they are more likely to produce representative samples and also allow estimates of the sample's accuracy to be made. There are different types of probability sampling such as:

simple random sampling, systematic sampling, and stratified sampling (Brewerton & Millward, 2001).

Non-probability sampling occurs in situations where the sampling techniques are either impractical or unnecessary and in these situations, cheaper, less resource intensive, non-probability techniques are used. Typical non-probability situations include those where there is an absence of a sampling frame, where the population is so widely dispersed to the point that probability sampling would be insufficient. There are also various types of non-probability samples such as: purposive sampling, quota sampling, convenience sampling, and snowball sampling (Brewerton & Millward, 2001).

The form of sample used for the purpose of this study is the non-probability sampling and also makes use of a snow-ball sampling type.



### **3.4.3. Snow-ball sampling:**

A snow-ball sample is a non-probability sampling technique that is utilized by researchers for the purpose of identifying potential subjects in studies where subjects are hard to locate. Many researchers use this type of sampling method if the sample for the study is very limited to a very small subgroup of the population. This sampling method is said to work like a chain referral. After the observation of the initial subject, the researcher asks for assistance from the subject to help identify people with a similar trait of interest (Castillo, 2009).

Snowball sampling also requires subjects to nominate another person with the same trait as the next subject. The researcher then continues in the same way after observing the nominated subjects until the sufficient number of subjects are obtained. There are various types of snow ball sampling such as: Linear, Exponential Non- Discriminative and Exponential Discriminative snowball sampling methods (Castillo, 2009).

#### **3.4.4. Considerations regarding sampling:**

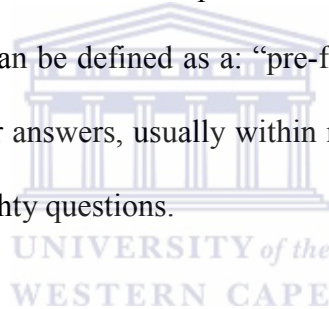
The advantage of using non-probability and snow-ball sampling procedure is that the referral process allows the researcher to reach populations that are difficult to sample when using other sampling methods (Castillo, 2009). Another advantage of using non-probability and snow-ball sampling procedure is that it is simple, convenient, time-consuming and cost-effective (Sekaran, 2001).

The disadvantage of using this chosen sample procedure is that it may be a restricted form of sampling. This sampling procedure may be restricted to one level of doctors that are accessed and does not show a true reflection. Furthermore, the researcher has little control over the sampling method. The subjects that the researcher may access rely mainly on the previous subjects that were used. This method cannot guarantee representativeness as the researcher may not know the true distribution of the population and of the sample. This implies that the study may not be generalizable. This type of sampling can introduce serious biases and may yield low external validity for the reason that initial subjects tend to nominate people that they know well. Because of this, there is a great possibility that the subjects share the same

traits and characteristics. Therefore it is possible that the sample that the researcher will obtain is only a small subgroup of the entire population (Castillo, 2009).

### **3.5. METHOD OF DATA COLLECTION:**

The data collection method utilized in the current study is a questionnaire. The questionnaire aims at measuring the stress levels and coping strategies among medical practitioners within the health profession. The method of data collection used involved the development and use of a structured questionnaire based on a comprehensive literature review. According to Sekaran (2000) a questionnaire can be defined as a: “pre-formulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives. This questionnaire consists of eighty questions.



#### **3.5.1. Procedure for data collection:**

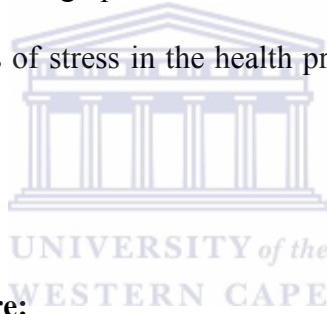
Two-hundred and thirty-four (234) questionnaires were distributed to three hospitals in the Western Cape participating in this research process. The questionnaires were then provided to the administrators in the allocated hospitals to be handed over to the medical practitioners. After a period of 2 weeks, the questionnaires were collected. Several variables were measured in the questionnaire. However, the sources of stress and the measures of coping strategies were emphasized on the most.



### **3.6. RESEARCH INSTRUMENTS:**

The questionnaire used for the purpose of this study consisted of an itemized rating scale. Sekaran (1992) clearly states that this scale is commonly used as it provides for adaptability to many situations where variables can be measured. With regards to the itemized rating scale, a category of responses is provided. The participant then chooses the one most relevant answer for the appropriate situation.

Nine of these scales measure the biographical details of the participant and the remaining questionnaire measures the levels of stress in the health profession's environment as well as the ways of coping with stress.



#### **3.6.1. Biographical questionnaire:**

The Biographical details included information with respect to gender, age, marital status, clinical specialty, practice setting, major work focus, number of children, tenure and the number of years in the department.

#### **3.6.2. Stressor checklist:**

This particular questionnaire is one that is structured and focuses on the various sources of stress. It was fully developed based on research that was done by Vachon (1987), Bothma (1992) and Kathrada (1991). This 36 item stressor checklist utilizes a four point scale, with 1

specifying ‘not at all stressful’, and 4 being ‘extremely stressful’ In terms of itemized rating, a category of responses is offered, from which respondents are able to choose the most considered and relevant answers pertaining to the questions asked. These numbers further explains these scales and represent the following responses:

1 – Not at all stressful

2 – Somewhat stressful

3 – Moderately stressful

4 – Extremely stressful

### **3.6.3. Coping styles and strategies:**



In order to measure and address coping styles in the medical profession, an adapted version of the Moos, Cronkite, Billings and Finney (1987) Health and daily living coping questionnaire was utilized.

This questionnaire also uses a similar scale from 1 to 5 and measures the extent to which certain aspects assist with the response as well as the ways to cope with stress. Coping strategies were measured on a five-point scale with 1 being ‘always’ and 5 being ‘never’. A score of 1 indicates most frequent use of that particular sub-scale of coping, and a score of 5 indicating the least frequently used coping mechanism. These numbers represent the following responses:

1 - Always

- 2 - Usually
- 3 - Sometimes
- 4 - Rarely
- 5 - Never

The following coping mechanisms were seen as significant and measured:

- Problem focused coping
- Emotion focused coping
- Avoidance coping
- Appraisal focused coping

### **3.7. RATIONALE:**

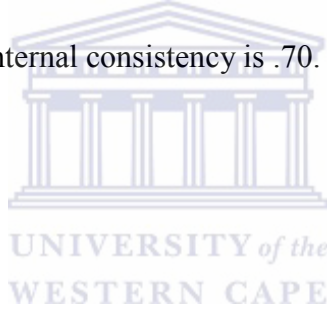


The rationale for using this questionnaire as a method of data collection is simply for the following reasons namely; a questionnaire allows for the opportunity to build rapport with the candidate and motivate them to fill in enthusiastically and honestly. Doubts can also be clarified with this questionnaire. This questionnaire can also be less expensive when administering to a group of respondents and almost a hundred percent response rate is assured. This questionnaire also allows for high anonymity of respondent (Sekaran, 2001). Furthermore, alternate reasons for using this technique are also because it was previously used in empirical studies and can be seen as a convenient way of measuring stress among medical practitioners that are occupied. This instrument is also seen as valid and reliable. Validity can be explained by asking the following question: is the instrument measuring what it is supposed to be measuring? (Sekaran, 2001) Reliability refers to consistency, stability and freedom from error (Sekaran, 2001).

### **3.8. RELIABILITY AND VALIDITY OF MEASURE:**

The instrument used in this particular study can be seen as valid and reliable. The reliability of a measure indicates the stability and consistency with which the instrument is measuring the concept. There are various types of reliability that exists namely; test retest, split halves, equivalent forms, inter-rater as well as item analysis reliability (Sekaran, 2002).

The questionnaire has been tested for internal consistency reliability and reported coefficient alphas ranging from .67 to .93 for the total scales. According to Sekaran ( 2002), the widely accepted minimum standard for internal consistency is .70.



#### **3.8.1. Test-retest reliability**

According to Sekaran (2001) the test-retest reliability is a measure of a test's stability that involves the correlation between scores of a group of respondents on two separate occasions. This questionnaire reported test-retest reliability ranging from .57 to .78 (Vachon, 1997).

The validity of a measure refers to whether a test measures what it is supposed to measure and not something else. The various types of validity include: criterion related, predictive and construct validity (Sekaran, 2002).

The questionnaire has also been examined for construct validity and reliability with good results in previous research (Vachon, 1997).

### **3.9. STATISTICAL ANALYSES:**

For the purpose of this study, both descriptive and inferential statistics are used as data analysis techniques. Descriptive statistics involve frequencies and measures of central tendency (means and standard deviation), whereas Inferential statistics makes use of t-tests and correlations. The following statistical procedures are explained below:

#### **3.9.1. Descriptive statistics:**



##### **3.9.1.1. Frequencies:**

Frequencies can be explained by understanding that it refers to the amount of times various sub categories of a particular phenomenon occur, which in turn allows for the percentage and cumulative percentage of the occurrence can be calculated. Frequencies are utilized on nominally scaled variables and are organized in numerous non-overlapping sub-categories, such as in the case of gender (Sekaran, 1992).

### **3.9.2. Inferential Statistics:**

Inferential statistical analyses are seen as significant for the purpose of the study as the researcher is interested in determining the differences in variable among different sub-groups. The data analysis methods that were utilized in this study involved t-tests.

#### **3.9.2.1. t-test:**

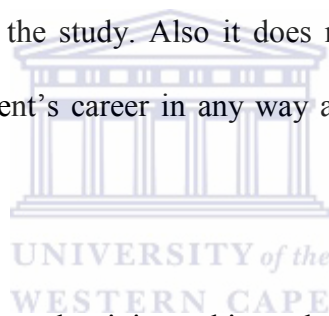
The t-test method implies the significant mean differences between two groups. This method is used to determine if two groups are different from each other on a particular interval-scaled or ratio-scaled variable of interest. In simple terms, a t-Test is done to see if there are any significant differences in the means for two groups in the variable of interest. The t-Test method will be used in this study to test the gender differences in the study (Sekaran, 2001).

### **3.10. ETHICAL ISSUES TO CONSIDER:**

It is the responsibility of the researcher to conduct research in such a way as to respect and maintain subject's rights and to ensure the protection of subjects from any possible physical and/or psychological harm such as: stress and anxiety as social research should never injure the people being studied. Consequently, participants have particular rights, which a researcher has to respect. This study has been structured in such a way that it does not have any psychological or physical harm toward the respondent. Protecting the respondent's well-

being and interests may also concern the respondent's identity. This study respects both the anonymity, privacy and the confidentiality of the respondent and do not disclose any of their information publicly or with anyone else with anyone else. It also involves the omitting of any names of the respondents or assigning numbers to them instead, for the sake of anonymity. Permission was however, obtained from all the hospitals that were used for the study.

People should not be subjected to research of a certain nature unless they agree upon it. This study involves voluntary participation of respondents and provides them with the choice to refuse to divulge any information about themselves as well as being exposed to both the negative and positive aspects of the study. Also it does not have the ability to directly or indirectly impact on the respondent's career in any way and does not allow for the loss of self-esteem of the respondent.



The study also does not include any deceiving subjects that allow for any unethical research as deception needs to be justified by compelling scientific or administrative concerns. Any possible short comings or failures were clearly communicated with respondents as analysis and reporting was conducted. This study is also free from any deliberate falsification of research data as well as any legal harm to the respondent.

Permission was obtained from the hospital administrators, prior to conducting the research at the three hospitals. The Hospitals used for the purpose of this study preferred to remain anonymous and cannot be identified.

### **3.11. SUMMARY OF CHAPTER:**

This chapter aimed at addressing the preliminary objectives of the research. It also focused on discussing the various design issues, an explanation of the research sample as well as the sample characteristics. Furthermore, it discusses the: procedure that was utilized whilst conducting the research, the research instruments and data collection methods that were used. Lastly, it further provides a more detailed explanation of the quantitative statistical analyses which were chosen for the purpose of this study.





## **CHAPTER 4:**

### **PRESENTATION OF RESULTS:**

In the previous section, the research methodology and design utilised during the current study were outlined. The information provided and discussed in the previous chapters will serve as a background against which the contents of this chapter will be presented and interpreted and is based on the empirical analyses conducted to test the hypotheses.

The statistical programme used for the analyses and presentation of data in this research is the Statistical Package for the Social Sciences (SPSS) version 19. The descriptive statistics computed for the study are presented first in an outline of the characteristics of the sample with regards to the variables included in the study. The descriptive statistics calculated for the sample are provided in the sections that follow. That is, the data pertaining to the variables included in the study, as collected by the measuring instruments employed, are summarised by means of calculation of descriptive measures. In this manner, the properties of the observed data can clearly emerge and an overall picture thereof is obtained.

#### **4.1. INFERENCE STATISTICS:**

The following section addresses the results obtained for the inferential statistics to test the various hypotheses generated for the research.

### Hypothesis 1:

There are significant differences in stress levels amongst male and female medical practitioners in the medical profession.

**Table 4.1: Gender differences in stress**

Variable	Mean	Std.Dev.	T-Value	2-Tailed Prob.
Global Stress				
Female	2.32	0.71	0.98	0.048 *
Male	2.53	0.62		

\*  $P < 0.05$

There is thus a significant mean difference in the overall stress experienced by male and female doctors ( $p < 0.05$ ). In terms of occupational stress, a small but significant difference was found in the ratings of global stress. Women reported slightly lower overall stress (Mean = 2.32, SD = 0.71) than men (Mean = 2.53, SD = 0.62). The standard deviation for the global stress measure is

not large for either males or females, indicating similarity in their perception or experience of stress.

**Table 4.2: Gender differences in Experiences of discrimination**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Experience Of Discrimination</b>				
<b>Female</b>	1.587	3.339	-.23	.822
<b>Male</b>	1.000	0.000		

There is no significant mean difference in the experience of discrimination between male and female doctors ( $P > 0.05$ ). Thus, the alternate hypothesis is rejected in favour of the null hypothesis. However, although there may be no significant mean difference between males and females in their experience of discrimination, the standard deviation indicates that the issue is perceived differently by women. For men, the standard deviation is 0.000, indicating unanimity

in their experiences of discrimination. However, the standard deviation for women is 3.339, which is substantially larger compared to those for the other sources. Hence, the mean is misleading in this instance, since it does not reveal those women that do experience discrimination.

The findings of the current research do not concur with that by Brink et al (1991), in which 80,8 % of the 2 626 women doctors who were surveyed, revealed they had experienced problems or difficulties in their careers because they were female. Similar findings were evident in research by Sanders et al,1990), and the Council on Ethical and Judicial Affairs, American Medical Association (1994) when they found approximately one-third of female students surveyed in a study of third year students felt they had been denied opportunities because they were women. In a further study by Brink et al (1991), it was revealed, of the respondents 47,9 % replied they had experienced discrimination as a woman doctor. Moreover, in a 10-school survey conducted by the Council on Ethical and Judicial Affairs, American Medical Association, 1994), 24,2% of men and 46.3 % of women felt that members of the opposite sex were given preferential treatment on the basis of their gender.

Possible reasons for the discrepancy in these findings can be attributed to the small sample size, the limited number of questions tapping the concept or to a genuine lack of discrimination in the workplace, amongst others.

**Table 4.3: Gender differences in Experiences of Sexual Harassment**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Sexual Harassment</b>				
<b>Female</b>	<b>1.600</b>	<b>3.286</b>	<b>-2.53</b>	<b>0.18</b>
<b>Male</b>	<b>1.000</b>	<b>0.000</b>		

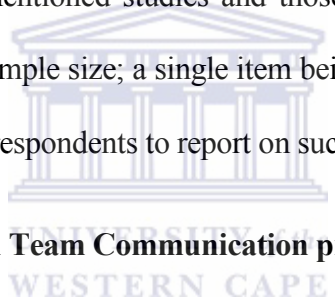


There is no significant mean difference in the experiences of sexual harassment between male and female doctors ( $P > 0.05$ ). The null hypothesis is therefore substantiated. However, the standard deviation for females, that is 3.286, is larger for females hence indicates a discrepancy in their experience of sexual harassment. Although some women do not experience sexual harassment in the workplace as stressful, some do. Hence, the mean in this instance is misleading.

However, these findings do not concur with those obtained by the Council on Ethical and Judicial Affairs, American Medical Association (1994). Evidence attesting to the pervasiveness of sexual harassment is provided in a single-school study of third year medical students, in

which 81,8 % of female respondents reported having been subjected to sexist slurs, most frequently by clinical faculty and resident doctors or interns, and 55 % reported having been the subject of sexual advances. In a survey of resident doctors, sexual harassment was reported by 65,9 % of female respondents and 9,6 % of male respondents. Similar findings were reported in a study of an internal medicine training programme, in which 73 % of women and 11 % of men who responded reported they had been sexually harassed at least once during their training, with approximately half of the reported incidents occurring in medical school and half during residency (Council on Ethical & Judicial Affairs, American Medical Association, 1994).

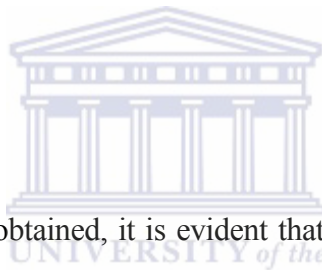
The disparity between the aforementioned studies and those obtained in this research can be attributed to the relatively small sample size; a single item being utilised to tap this dimension or to an unwillingness on the part of respondents to report on such matters, amongst others.



**Table 4.4: Gender differences in Team Communication problems**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob</b>
<b>Team Communication Problems</b>				
<b>Female</b>	<b>12.8</b>	<b>4.262</b>	<b>-.96</b>	<b>.349</b>
<b>Male</b>	<b>13.963</b>	<b>4.014</b>		

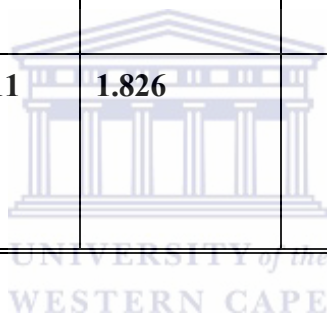
With regard to the experience of team communication problems, the t-test indicated no significant mean difference between male and female doctors ( $P > 0.05$ ). Thus, the null hypothesis is substantiated. There is thus, no significant mean difference between male and female doctors experience of team communication problems. The standard deviations obtained for both male and female are large, although comparable, indicating congruence in their experiences of team communication problems as stressful. With respect to team communication problems, it is interesting to note that both males and females ranked intergroup conflict as being high on their list of stressors, with males evidencing problems with intragroup conflict in addition (Mean = 2.593,SD = 0.971). Moreover, males ranked intergroup conflict (Mean = 2.778,SD = 0.892) higher than did females (Mean = 2.300,SD = 0.923) (see Tables 4.10 (a) and 4.10 (b) respectively).



In terms of the composite means obtained, it is evident that males experience a negligible, but greater degree of stress resulting from team communication problems (Mean = 8.11,SD = 1.826),while for females the Mean is 7.750,SD = 1.826. In her study, Vachon (1987) revealed team communication problems to be the most significant stressor. Although problems in communication were not the most highly ranked, Firth-Cozens & Morrison (1987) & Sutherland & Cooper (1990) highlight the significance of good relationships at work. They maintain, in situations where the quality of interpersonal relationships are poor, it is more likely for inappropriate coping styles to be employed.

**Table 4.5: Gender differences in Nature of Unit**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Nature Of The Unit</b>				
<b>Female</b>	<b>7.750</b>	<b>2.359.</b>	<b>-.59</b>	<b>.573</b>
<b>Male</b>	<b>8.111</b>	<b>1.826</b>		



With regard to the nature of the unit, a t-test showed no significant difference between female and male doctor’s experiences of the unit as stressful ( $p > 0.05$ ). The null hypothesis is therefore substantiated. Thus there is no significant mean difference between female and male doctors' experiences of the unit as stressful.

Although no significant mean difference was found between males and females with respect to unit-related stressors, both males and females evaluated the nature of the unit similarly, although the spread of the scores for females was larger. While males perceived the nature of the unit as more stressful, females experience more aspects of the unit stressful, that is, three aspects of the unit as opposed to the two highlighted by males. The lack of adequate staff was evaluated by



males as the most stressful aspect of their work environment (Mean=2.963, SD =0.898) , while the fear of making errors featured high on the list of ten most stressful aspects of the work environment (Mean = 2.889, SD = 0.892). Both these aspects of the unit were evaluated as more stressful by males than by their female counterparts. Females ranked the fear of making errors (Mean = 2.650, SD = 0.875) and the lack of adequate staff (Mean = 2.650 ,SD = 1.089) as the most stressful aspects of the work environment. In addition, females identified inadequate training of nurses as one of the ten most stressful aspects of the work environment (Mean = 2.300,SD =0.979) (see Tables 4.10 (a) and 4.10 (b) respectively).

In terms of Ullrich & Fitzgerald's (1990) and Firth-Cozens & Morrison's (1987) study, the fear of making errors in diagnosis was experienced as stressful relative to other stressors. Vachon (1987) found the nature of the unit to be the third most highly ranked stressor, and in particular, the lack of adequate staff was highly ranked as a source of stress by both male and female staff which concurs with findings from the current research.

**Table 4.6: Gender differences in Occupational role stressors**

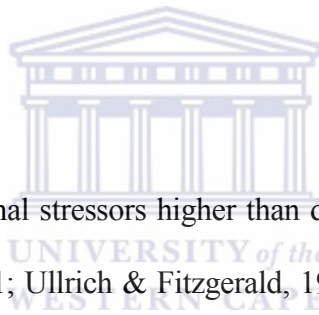
<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Occupational Role Stressors</b>				
<b>Female</b>	<b>24.500</b>	<b>6.048</b>	<b>-1.41</b>	<b>.190</b>
<b>Male</b>	<b>26.630</b>	<b>4.343</b>		

A t-test showed no significant difference between the mean score of 24.500 for female and 26.630 for male doctors ( $p > 0.05$ ). Thus, the alternate hypothesis is not substantiated and therefore rejected in favour of the null hypothesis. Female and male doctors do not differ with respect to their experiences of occupational role stressors. The spread of the scores is also greater amongst female doctors than amongst the males. Although there is no significant mean difference in the experience of occupational role stressors in male and female doctors, this dimension was the most stressful for both males and females.

For females, keeping home and work separate (Mean = 2.650, SD = 0.933) and shift work (Mean = 2.650, SD = 1.089) was most stressful. In addition, a concern about career path (Mean = 2.500, SD = 1.00), families' complaints about spending insufficient time with them (Mean =

2.450,SD = 1.146) and not getting enough time to read medical journals (Mean = 2.350,SD = 0.745) were evaluated as stressful role-related aspects. (see Tables 4.10 (a) and 4.10 (b) respectively).

For males, families' complaints about spending insufficient time with them (Mean = 2.926,SD = 1.035),shift work (Mean = 2.852,SD = 1.064), concern about career path (Mean = 2.593,SD = 0.888),keeping home and work separate (Mean = 2.556,SD = 1.0123),having too much to do (Mean = 2.519,SD = 0.935) and not getting enough time to read medical journals (Mean = 2.481,SD = 0.935 ) were evaluated as the most stressful role-related aspects (see Tables 4.10 (a) and 4.10 (b) respectively).



Although males ranked occupational stressors higher than did females Payne & Firth-Cozens's (1987; Richardsen & Burke, 1991; Ullrich & Fitzgerald, 1990 & Sutherland & Cooper, 1993) findings do not support the current research. Several reasons can be offered for these findings, the most plausible of which relates to the small sample, the different conditions under which doctors in these hospitals work and to the concentration of male and female doctors in different departments, which may place differing demands on them.

**Table 4.7: Gender differences in Patients and Families' Expectations**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Patients And Families' Expectations</b>				
<b>Female</b>	<b>10.700</b>	<b>2.697</b>	<b>-1.40</b>	<b>.163</b>
<b>Male</b>	<b>11.889</b>	<b>3.017</b>		

There is no significant mean difference between male and female doctors' experiences of patients and families expectations ( $p > 0.05$ ). Females, however, experience patients and families expectations as less stressful (Mean = 10.700, SD = 2.697), than males (Mean = 11.889, SD = 3.017).

Firth-Cozens & Morrison (1987); Vachon (1987); Sutherland & Cooper (1993); Ullrich & Fitzgerald (1990) and Richman & Flaherty (1990) found dealing with patients' demands and

their relatives to be highly stressful, with males evidencing higher levels of difficulty in dealing with patients and families' expectations.

**Table 4.8: Gender differences in Type of Illness dealt with**

<b>Variable</b>	<b>Mean</b>	<b>Std.Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Type Of Illness Dealt With</b>				
<b>Female</b>	<b>13.950</b>	<b>2.800</b>	<b>-.22</b>	<b>.821</b>
<b>Male</b>	<b>14.148</b>	<b>3.159</b>		

There is thus no significant difference in the experiences of male and females with respect to the type of illness dealt with ( $p > 0.05$ ). Males experience greater levels of stress as a result of the type of illness dealt with (Mean = 14.148,SD = 3.159),than females (Mean = 13.950,SD = 2.800). For males, fear of contagion (Mean = 2.481,SD = 0.975) was ranked the most stressful aspect of illness type dealt with, whereas for females, fear of contagion (Mean = 2.450,SD = 0.826),difficulty in breaking news about dying patients (Mean = 2.300,SD = 1.081) and the type of illness dealt with (Mean =2.300,SD = 0.979) were the most stressful aspects of an illness (see Tables 4.10 (a) and 4.10 (b) respectively).

Although dealing with death and dying was frequently cited as a source of stress in research by Richardsen & Burke (1991); Firth-Cozens & Morrison (1987); Vachon (1987); Ullrich & Fitzgerald (1990); Barbour (1994); Yedida et al (1993); this factor was not one of the top stressors.

**Table 4.9: Gender differences in Extra-organisational**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-Tailed Prob.</b>
<b>Extra-Organisational</b>				
<b>Female</b>	<b>5.100</b>	<b>1.714</b>	<b>-1.56</b>	<b>.137</b>
<b>Male</b>	<b>5.815</b>	<b>1.415</b>		

There is thus no significant difference between males and females with respect to their experience of extra-organisational stressors ( $p > 0.05$ ).

Males experience greater levels of stress due to extra-organisational factors (Mean = 5.100, SD = 1.714), females (Mean = 5.815, SD = 1.415). Richardsen & Burke (1991); Sutherland & Cooper (1993) and Payne & Firth-Cozens (1987) found extra-organisational sources of stress to be rated

highly in their research, although no analyses compared the responses of male and female doctors.

In terms of Table 4.10 below, sources of stress were ranked on a scale of 1 to 4, with 1 being an indication of the experience of a stressor as 'not at all stressful', to 4 being an indication of 'extremely stressful'. Hence it can be inferred from an examination of Table 4.10, in general, men experience most aspects of their work as more stressful than women, with a few exceptions.

For men the highest mean stressor, lack of adequate staff, is 2.963, SD = 0.898, whereas for women, the highest mean stressor, keeping home and work separate, is 2.650, SD = 0.933. Research by Richardsen & Burke (1991) reveals a similar tendency for men to perceive their work as more stressful than women doctors, again with few exceptions. However, in terms of their study, the highest mean stressor was 3.50, SD = 1.26 (dealing with death and dying) and 3.55, SD = 1.14 (demands made on me) for males and females respectively. This discrepancy from their study can be attributed to differences in the departments in which the individuals work or to individual differences in response to stress, amongst others. However, these findings do not concur with those obtained by Richardsen & Burke (1991), in which a global measure of stress indicated both men and women doctors in general find their environments extremely stressful (females, mean=2.53; Males, mean = 2.32), although in this instance, women reported higher levels of stress than did their male counterparts.

The results of the current study, however, reveal men experience their work environment as more stressful on almost all dimensions tapped. Following from this, a rank order of the top ten sources of stress for males and females was developed in order to assess the differences and

similarities in what they rate as stressful. The results of this ranking are depicted in Table 4.10 (a) and 4.10 (b) which follows.

**TABLE 4.10(a) RANK ORDER OF TOP TEN SOURCES OF STRESS FOR FEMALE DOCTORS**

<b>Variable</b>	<b>Mean</b>	<b>Std.Dev.</b>
Keeping home and work separate	2.650	0.933
Shift work	2.650	1.089
The fear of making errors	2.650	0.875
Lack of adequate staff	2.650	1.089
Concern about my career path	2.500	1.000
Fear of contagion (e.g AIDS)	2.450	0.826

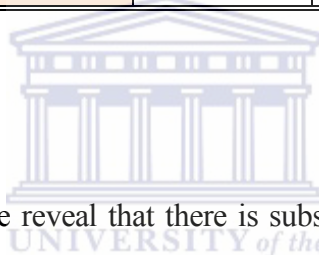


My family complains that I spend too little time with them	2.450	1.146
Not getting sufficient time to read medical journals	2.350	0.745
Intergroup conflict	2.300	0.923
Inadequate training of nurses	2.300	0.979
Difficulty breaking news about dying patients	2.300	1.081
Type of illness dealt with	2.300	0.979

**TABLE 4.10 (b) RANK ORDER OF TOP TEN SOURCES OF STRESS FOR MALE DOCTORS**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>
<b>Lack of adequate staff</b>	2.963	0.898
<b>My family complains that I spend too little time with them</b>	2.926	1.035
<b>The fear of making errors</b>	2.889	0.892
<b>Shift work</b>	2.852	1.064
<b>Intergroup conflict</b>	2.778	0.892
<b>Intragroup conflict</b>	2.593	0.971
<b>Concern about my career path</b>	2.593	0.888
<b>Keeping home and work separate</b>	2.556	1.013

<b>Too much to do</b>	2.519	0.935
<b>Fear of contagion (e.g. AIDS)</b>	2.481	0.975
<b>Not getting enough time to read medical journals</b>	2.481	0.935



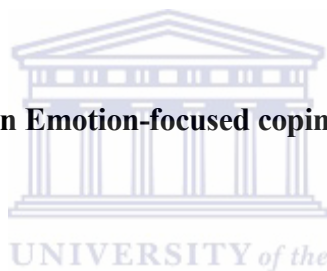
Tables 4.10 (a) and 4.10 (b) above reveal that there is substantial similarity in what both men and women rate as stressful. For men the most problematic areas pertain to unit-related stressors, which contained two of the most highly rated stressors, that is lack of adequate staff and the fear of making errors. Team communication problems were similarly highly ranked (intergroup conflict and intragroup and conflict); and occupational role stressors constituted six of the top ten sources of stress identified by male doctors. These included 'My family complains that I spend too little time with them', 'shift work', 'concern about my career path', 'keeping home and work separate', 'too much to do' and 'Not getting sufficient time to read medical journals'.

For female doctors, occupational role-related stressors constituted five of the top ten sources of stress. These included, ' Keeping home and work separate', 'shift work', concern about my career path, 'My family complains that I spend too little time with them and 'Not getting sufficient time

to read medical journals. These findings concur with those obtained by several researchers (cf Richardsen & Burke ,1991; Sanders et al,1990; Brink et al,1991; Vachon, 1987, Payne & Firth-Cozens, 1987; Richman & Flaherty, 1990; Sutherland & Cooper, 1993).

## HYPOTHESIS 2

There are significant differences in coping mechanisms utilised by male and female medical practitioners in the medical profession.



**Table 4.11: Gender differences in Emotion-focused coping**

Variable	Mean	Std. Dev.	T-Value	2-Tailed Prob.
<b>Emotion-Focused Coping</b>				
<b>Female</b>	<b>39.900</b>	<b>4.855</b>	<b>-1.86</b>	<b>.090</b>
<b>Male</b>	<b>42.074</b>		<b>-1.75</b>	

There is thus no significant mean difference in the utilisation of emotion focused coping between male and female doctors ( $p > 0.05$ ), although emotion-focused coping is utilised more by females (Mean = 39.900,SD = 4.855),than by males (Mean = 42.074),SD = 3.149). However, emotion-focused coping needs to be investigated further since the result is bordering on significance.

Vachon (1987) argues emotion-focused coping strategies are relied upon to a greater extent by women in dealing with stress. This was indeed found to be so in terms of the present study. Within the context of emotion-focused coping, the reliance on social support has been argued to act as a buffer against occupational stress, with women utilising this strategy to a greater extent than men (Baum & Grunberg, 1991).

A significant mean difference in the reported use of social support as a stress coping strategy was observed between male and female doctors, with women more likely than male doctors to use this method of coping than men (Mean = 16.3, SD = 3.1; and mean = 14.1, SD = 2.9), respectively.



**Table 4.12: Gender differences in Problem-focused coping**

<b>Variable</b>	<b>Mean</b>	<b>Std. Dev.</b>	<b>T-Value</b>	<b>2-TailedProb.</b>
<b>Problem-Focused Coping</b>				
<b>Female</b>	<b>24.500</b>	<b>2.875</b>	<b>-7.01</b>	<b>.000 *</b>
<b>Male</b>	<b>30.741</b>	<b>3.121</b>		

\* P < 0.05.

There is thus a significant mean difference in the utilisation of problem-focused coping between male and female doctors (p < 0.05). Females have a greater propensity to utilise problem-

focused coping (Mean = 24.500,SD = 2.875) than males (Mean = 30.741,SD = 3.121). It has been argued men have a greater propensity to utilise problem-focused coping strategies by Vachon (1987). However, the results of the t-test do not support the findings by Vachon (1987).

**Table 4.13: Gender differences in Appraisal-focused coping**

Variable	Mean	Std. Dev.	T-Value	2-Tailed Prob.
<b>Appraisal-Focused Coping</b>				
<b>Female</b>	<b>7.050</b>	<b>1.468</b>	<b>-2.55</b>	<b>0.16</b>
<b>Male</b>	<b>8.111</b>	<b>1.368</b>		

There is thus no significant difference in appraisal-focused coping between male and females ( $p > 0.05$ ), although appraisal-focused coping is used more frequently by females (Mean = 7.050,SD = 1.468) than by males (Mean = 8.111,SD = 3.648).

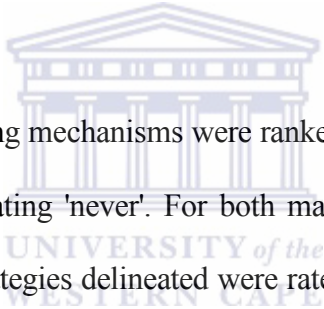
**Table 4.14: Gender differences in Avoidance coping**

Variable	Mean	Std. Dev.	T-Value	2-Tailed Prob.
<b>Avoidance Coping</b>				
<b>Female</b>	<b>47.050</b>	<b>3.546</b>	<b>3.81</b>	<b>0.000 *</b>
<b>Male</b>	<b>43.000</b>	<b>3.468</b>		

\*  $P < 0.05$

There is thus a significant difference in the utilisation of avoidance coping between male and females ( $p < 0.05$ ). Females are less apt to use avoidance coping (Mean = 47.050, SD = 3.546) than their male counterparts (Mean = 43.000, SD = 3.648).

Cohen, Evans, Stokols & Krantz (1986) suggest avoidance-oriented strategies might be protective in intractable environments, which permit little feedback or chance of control. Experimental research by Holmes & McCall (1989) suggests that an avoidant strategy is better than no strategy at all. The aforementioned study found men utilise avoidance coping to a greater extent than females, which concurs with findings in the present research.



In terms of the present study, coping mechanisms were ranked on a scale of 1 to 5, with 1 being indicative of 'always' and 5 indicating 'never'. For both male and female doctors, with a few exceptions, most of the coping strategies delineated were rated greater than 2.5, which indicates that a greater proportion of them rarely to never utilised those coping mechanisms. That is, the lower the mean score obtained, the more likely the person is to use that strategy to cope when stressed, and the higher the score, the less likely the person is to use that strategy to cope when stressed. When analysed individually, several significant differences between male and female doctors is apparent, which when clustered, is not as apparent.

**TABLE 4.15 (a) RANK ORDER OF TOP TEN COPING MECHANISMS FOR FEMALE DOCTORS**

<b>Variable</b>	<b>Mean</b>	<b>Std.Dev.</b>
Seek informal support of colleagues	1.600	0.821
Try to get advice and suggestions from someone at work	1.600	0.821
Seek clarification about my role	2.300	1.081
Seek more flexible working hours	2.500	1.357
Leave the problem and try to solve it by talking it through at home	2.600	0.995



Get rid of the tension by expressing some irritability and frustration to myself	2.700	0.923
Express my irritation to colleagues at work	2.700	1.218
Manage my time more effectively	2.700	1.302
Become more involved with life at home	2.850	1.137
Make a concerted effort to enjoy myself with some pleasurable activity after work	2.950	1.099

UNIVERSITY of the

**TABLE 4.15 (b) RANK ORDER OF TOP TEN COPING MECHANISMS FOR MALES**

Variable	Mean	Std.Dev.
Make a concerted effort to enjoy myself with some pleasurable activity after work	2.259	1.347
Express my irritation to colleagues at work	2.481	1.051

Have a good laugh	2.481	1.014
Leave the problem and try to solve it by talking it through at home	2.556	1.013
Get rid of the tension by expressing some irritability and frustration to myself	2.704	0.869
Try to reduce tension by after work physical activity	2.926	1.174
Do nothing and carry on as usual	2.963	0.808
Have a drink (alcohol)	2.889	1.086
Use illicit drugs	3.074	1.299
Take a day off to recover	3.111	1.368

An examination of Tables 4.15 (a) and (b) reveals some similarity in the utilisation of coping strategies by male and female doctors. However, male doctors utilise more avoidant coping mechanisms than do females, as is evident by their greater propensity to consume alcohol and use illicit drugs when stressed. The results of the rank ordering for individual t-tests of coping mechanisms reveal avoidance coping to constitute four of the top ten coping mechanisms deployed by male doctors.

Females, however, are more apt to use problem - and emotion-focused coping mechanisms, since these constitute the majority of the mechanisms deployed by female doctors. From an analysis of the results, in terms of Table 4.15 , it can be seen, for example that females are more apt to become more involved with life at home as a way of coping (Mean = 2.850, SD = 1.137), as compared to men ( Mean = 3.556,SD = 1.013) ( $p = 0.034$ ). Sutherland & Cooper's (1993) study revealed women doctors have a greater propensity to utilise this form of coping than their male counterparts. Additional evidence attesting to women's greater tendency to utilise the home/work interface to cope with stress is provided by Brink et al, 1991,Sanders et al,1990; Shye, 1991; Richman & Flaherty, 1990; Payne & Firth- Cozens, 1987; Cheng & Lee, 1988; Vachon,1987; Richardsen & Burke, 1991).

Men have a greater propensity to utilise alcohol to cope when stressed compared to women (Mean = 2.889,SD = 1.086 and 4.300,SD =0.865 respectively) ( $P = 0.00$ ). These findings concur with those obtained by numerous researchers who found, in some cases that male doctors evidence triple the rate of alcoholism as women doctors (Cartwright, 1987; Phillips,1991; Flaherty & Richman, 1986; Sutherland & Cooper, 1990; Cheng & Lee, 1988; Ullrich &

Fitzgerald, 1990). However, these findings need to be evaluated against the backdrop of its methodological flaws, particularly in respect of the relatively small sample size.

Female doctors are more likely to become involved in after work activities outside home (Mean = 3.100,SD = 0.912) than their male counterparts (Mean = 3.963,SD = 1.160) (P = 0.007). These findings, however, need to be interpreted with caution, since the questions relating to activities outside home was not exhaustive. Vachon's (1987) study, for example, reported males use this form of coping mechanism more than do females. Women are more likely than men (Mean = 1.600,SD = 0.821;Mean = 3.259,SD = 1.228, respectively) ( P = 0.00) to try to get advice from someone at work and women doctors are more likely to seek informal support of colleagues (Mean = 1.600,SD =0.821) compared to men (Mean = 4.926,SD =1.014) (P = 0.000) (Uhlenberg & Cooney, 1990; Richardsen & Burke, 1991; Payne & Firth-Cozens, 1987; Vachon, 1987; Richman & Flaherty, 1990). The research is conclusive in this regard, Hence, the current study lends credence to the view of women's greater reliance on social support to buffer the effects of stress.

Men were more likely to have a good laugh than women to cope with stress (Mean = 2.481,SD = 1.014;Mean 4.750,SD = 0.444) respectively (p = 0.000). Men were more likely to utilise illicit drugs to cope with stress than their female counterparts (mean = 3.074,SD = 1.299;Mean = 4.600,SD = 0.754) (P= 0.000). One of the methodological flaws of the questionnaire used relates to the omission of a question relating to the use of prescribed drugs. However, the current findings concur with those obtained by Payne & Firth-Cozens (1987), in which they found men to utilise illicit drugs to a greater extent. However, the current findings need to be interpreted with caution, since women may be more reluctant than men to report on such matters.

Women were more likely to seek flexible working hours than men (Mean = 2.500,SD = 1.357;Mean = 4.111,SD = 0.847) (P = 0.000). This discrepancy can be attributed to the fact that a large proportion of women (65 %) compared to 29.6 % of the men, are married. Since women traditionally bear the largest burden in terms of home and child-care, the findings are plausible. However, child-care can be excluded as a possible reason, since 65 % of the women had no children. Moreover, the spread of the scores for women is greater, indicating lower agreement among them with respect to the frequency with which they seek flexible working hours to cope.

Women were more likely to engage in biofeedback, hypnosis, meditation or yoga than men (Mean = 3.700,SD = 1.262;Mean = 4.963,SD = 0.192). (p = 0.000). Women were more likely to think objectively about the situation and keep their feelings under control (Mean = 3.600,SD = 1.095;Mean = 4.519,SD = 0.849) (p= 0.004). Men were more likely to find out more about why they are stressed than their female counterparts (Mean = 3.185,SD = 0.786;Mean = 3.750,SD = 0.851). (p=0.025). Women were more likely to think of good things in the future (Mean = 4.350,SD = 0.875;Mean = 4.963,SD = 0.192) (p= 0.006).

Women were more likely to try to manage their time more effectively (Mean = 2.700,SD = 1.302;Mean = 3.852,SD = 1.134) (p = 0.003). This can possibly be explained in terms of their attempts to integrate home and work life more effectively. Women were more likely to seek clarification about their role than their male counterparts (Mean = 2.300,SD = 1.081;Mean = 3.741,SD = 1.095) ( p = 0.000).

## 4.2. SUMMARY OF CHAPTER:

This chapter has presented the most salient findings which emerged from the empirical analysis of data.



## CHAPTER 5:

### DISCUSSION, CONCLUSION AND RECOMMENDATIONS

#### 5.1. INTRODUCTION:

The primary objective of this study was to determine the sources of stress and coping mechanisms used by medical doctors in the Western Cape. This chapter presents an overview of the most important findings of the research performed. In order to contextualize the research, comparisons are drawn with available literature in various settings. The remainder of the chapter provides the conclusions that can be drawn from the research as well as recommendations for future research.

Heimbach (1970, cited in Payne & Firth-Cozens, 1987, p. 23) maintains that "medicine is a demanding mistress-any doctor who is unable to make the commitment necessary for the patient whenever he is needed is better off in some other field of endeavour". It can be inferred from an explication of the dynamics of stress, that there is substantial similarity in what both men and women rate as stressful, although male and female doctors may differ with respect to how highly they rate some sources of stress as suggested by Payne & Firth-Cozens (1987). However, in general, male doctors experience most aspects of their work as more stressful than females, with a few exceptions. Moreover, the incidence of psychological distress appeared amongst the

research sample proved higher when compared to other studies (Richardson & Burke, 1991; Payne & Firth-Cozens, 1987; Firth-Cozens & Morrison, 1987).

## **5.2. DISCUSSION OF RESULTS**

Recent literature agrees that stress can cause enormous strain on doctors more than any other profession. According to Finch (2004, p. 4) “Dr Michael Peters, a GP and director of Doctors at the BMA, said GPs were particularly vulnerable because they often worked in isolation' and had to cope with enormous emotional strain”.

In a study done by Lepnurm et al (2009), similar determinants of stress were mentioned to the sources of stress that were identified in this study. Other studies also make mention of the various sources of stress. As, Lepnurm et al (2009, p. 367) illustrates that “These studies catalogue the effects of various factors such as ‘coping with demanding patients, filling out excessive paperwork, interruptions in personal life etc’, on the physician’s professional and personal life. However these studies distinguish between moderate and severe levels of stress. Low or moderate levels of stress are referred to as strain whereas higher levels of stress are referred to as burnout (Lepnurm et al, 2009).

Despite the various psychological manifestations such as burnout and suicide, recent studies also show that fatigue can be seen as one of the consequences of stress on doctors (Lepnurm et al, 2009). Similar and more recent studies were found concerning the impact of HIV/aids on medical practitioners. “The residents in this study described being significantly affected personally by the burden of HIV. One resident noted that there is “a lot of stress from close



relatives who are either currently suffering from HIV/AIDS or have died in the recent past. Another resident, in medicine, alluded to the omnipresence of HIV/AIDS in the lives of many residents, both at home and in the hospital” (Raviola, Machoki, Mwaikambo & Good, 2002, p. 65).

Similar studies were found relating to discrimination among doctors and were found to be very similar except for the fact that they not only discuss the disparities that exist among medical practitioners but also discuss the strategies and reforms to address these discriminatory issues. Clark (2009) presents some practical strategies and reforms on how to address the present racial and ethnic disparities in health care.

Recent studies also similarly mention the lack of support for medical practitioners and can be seen as a major stressor. However, this study does not emphasize the lack of support from the supervisor. However, Halpern, Gurevich, Schwartz & Brazeau (2008) further discuss the need for supervisor support.

Research has revealed that male doctors and medical students hold socially-conditioned views about the suitability of medical specialities for women (Shye,1991). Prejudice against allowing women to enter medical training or to award senior posts to trained women doctors existed in the past and may still be prevalent in some quarters today (Sanders, Barnes, du Plessis, Muller & Mostert,1990). Payne and Firth-Cozens (1987) report on a study in which external prejudice was cited by young Black women doctors.

Sexual harassment has been reported by students and resident doctors. Evidence attesting to this fact is provided by a single- school study of third year medical students, in which 81,8 % of

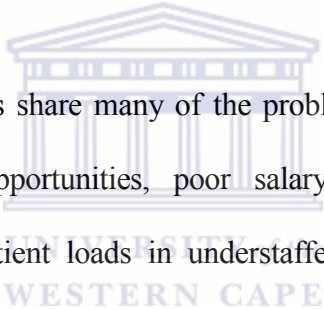
female respondents reported having been subjected to sexist slurs, most frequently by clinical faculty and resident doctors or interns, and 55 % reported having been the subject of sexual advances. In a survey of resident doctors, sexual harassment was reported by 65,9 % of female respondents and 9,6 % of male respondents. Similar findings were reported in a study of an internal medicine training programme, in which 73 % of women and 11 % of men who responded reported they had been sexually harassed at least once during their training, with approximately half of the reported incidents occurring in medical school and half during residency (Council on Ethical & Judicial Affairs, American Medical Association, 1994).

Team communication problems contribute significantly to stress in doctors. Team communication problems can result either because members do not know one another well enough and therefore do not acknowledge and recognise each other's area of expertise. Frequent contact with one another and intense interchange in the absence of outside stimuli may precipitate this problem. A plethora of concomitant communication problems result from a lack of team stability, intragroup conflict and intergroup conflict. In analysing the underlying sources of team communication problems, it is purported that most of the problems can be traced back to questions of control (Vachon,1987).

Reason (1991,cited in Budd & Sharma (1994, p. 189) also posits the view that "clinicians from different disciplines clash because while they may agree about what the patient needs, they interpret those needs through different frameworks, and bring to the situation fundamentally different assumptions about what an intervention may do... Beyond the interpersonal disagreements and the structural differences, something else is around (although these superficial conflicts will multiply the effects of the deeper ones). People will suddenly find

themselves in conflict they did not expect. I think this might well be called paradigmatic struggle".

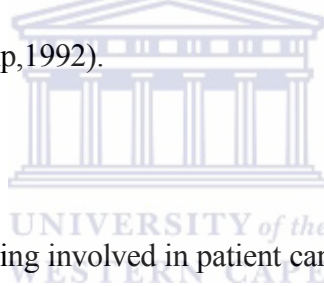
Several studies report inadequate staffing or resources constitutes a major stressor for doctors (Kemp,1992; Vachon,1987; Flaherty & Richman,1986). The physical resources available to doctors could precipitate stress reactions. Doctors who train at teaching hospitals and then practice in community hospitals may find availability of resources to be a stressor. They often expect to practice the same type of medical care they had been trained to perform, but this may be impossible due to the decrease in available resources (Sutherland & Cooper, 1993).



Doctors in non-academic hospitals share many of the problems of their academic colleagues, such as limited promotional opportunities, poor salary scales (Benatar, 1989,cited in Kemp,1992) and often heavy patient loads in understaffed and poorly equipped hospitals. Another challenge currently being posed to the medical profession is increasing budget cuts which hospitals have to contend with. In their extreme form, these cuts allegedly threaten the quality of patient care (Barbour, 1994),overload doctors and nurses with work and a reduced workforce (Sutherland & Cooper,1992),and provoke a new set of difficulties for the administration of health care services. Jick & Murray's (1982;Ashkenas, 1979;Fottler,Smith & Muller,1985; Murray, Jick & Bradshaw,1984,cited in Payne & Firth-Cozens,1987) studies of budget cuts in hospitals revealed the primary emphasis was on the fiscal and organisational adaptation to budget reductions, with less attention being paid to the strains placed on individuals and how they can be managed (Payne & Firth-Cozens,1987).

Barbour (1994:229) espouses the view that "... most of the stressors caregivers report, when asked about the stress they experience in caring for the critically ill and dying, are not related directly to work with clients and their families but rather to difficulties with colleagues and within institutional hierarchies. In hospice work the team, which is thought to be a major source of nurturance, is, in fact, a major source of stress".

An additional source of stress concerns the use of foreign doctors who qualify for only limited registration in these settings. Many of these doctors have limited clinical experience and communication difficulties because of language differences and need to undergo a period of training before they can function adequately. This contributes to the workload of more experienced resident doctors (Kemp,1992).



As a result of different faculties being involved in patient care, problems in communicating with these other specialities may become a problem, thereby leading to stress in the attending doctors (Finn- Paradis, 1987). Moreover, communication problems with administration often reflect an underlying lack of recognition of expertise in a particular area by administration (Vachon, 1987). The literature suggests the changing responsibilities and relationships concurrent with the development of primary health care teams might be expected to cause stress associated with role ambiguity. This problem has been noted in the work of Schmalenberg & Kramer (1979; and Rosenthal, Marshall, MacPherson & French, 1980, cited in Payne & Firth Cozens, 1987).

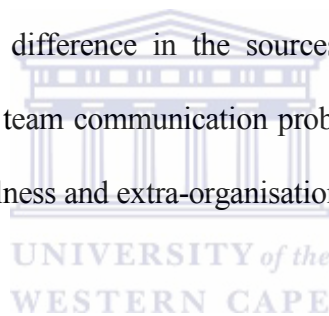
Comparing men and women doctors, Finn Paradis (1987) maintains women tend to attribute their successes to luck when undertaking traditionally male tasks, while males attribute success

to skill. The corollary of this is women may have a greater propensity to experience the death or deterioration of a patient as a personal failure (Finn Paradis, 1987).

### **5.3 CONCLUSION:**

The following conclusions can be drawn from an analysis of the data:

- 1) There is a small, but significant mean difference in overall stress experienced by male and female doctors.
- 2) There is no significant mean difference in the sources of stress (discrimination, sexual harassment, role-related stressors, team communication problems, unit-related stressors, patient or families' expectations, patient illness and extra-organisational stressors).



Although no significant differences were found in the sources of stress between male and female doctors, some individual sources of stress are rated more highly by male and female doctors. For men the most problematic areas pertain to unit-related stressors and team communication problems were highly ranked, and occupational role stressors constituted six of the top ten sources of stress identified by male doctors.

Even though stress is a significant part of life and can be used in everyday challenges to cope, problems start to occur when the stress response is inappropriate to the magnitude of the challenge (Thomas & Valli, 2006). Medical graduates are aware that the practice of medicine takes first priority in their lives and that there are potential consequences to face. All health

professionals are destined to undergo vast amounts of stress. The very fact of caring for others in whatever capacity means that they are open to suffering from stress and stress related problems (Burnard, 1991). However, in general male medical practitioners are shown to have more stress, relating to the various aspects of their work than female medical practitioners do (Heslop, 1995).

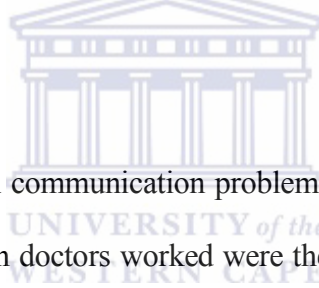
“Unless sufficient emphasis is placed on the effects of burnout and other causes of medical migration, and attempts are made to mitigate them, South Africa will continue to lose medical practitioners to the global labour market, ultimately resulting in detrimental standards of medical care” (Stodel & Stewart-Smith, 2011).

Despite the physical and psychological manifestations presented in the literature, coping and management strategies can be used to deal with stress within the medical profession as a variety of disciplines can be used to do so. In a study of women physicians in Massachusetts, about a quarter reported sexual harassment, and a half reported some form of sex discrimination (Lenhart & Evans, 1991). Among women faculty throughout the United States, 47% of the younger women and 70% of the older women but fewer than one-third of men faculty reported gender-based discrimination (Carr, Ash, Friedman, Szalacha, Barnett, Palepu, & Moskowitz, 2000). Few men faculty (<3%) reported the more substantial harassment experienced by about one-third of women faculty.

In the study of Massachusetts women physicians, women who were younger, unmarried, and in settings with more men were more likely to report harassment; this is similar to studies of women other than physicians (Lenhart et al 1991). In the Women Physician’s Health study, certain characteristics were associated with the report of ever having been subjected to gender-based harassment: women physicians who were divorced or separated, not Asian or other race,

those specializing in historically male specialties, those identifying themselves as politically more liberal, and those not living in the eastern United States. Similar to the medical students, women physicians in practice also report sexual harassment by patients (Phillips and Schneider 1991).

For female doctors, occupational role-related stressors constituted five of the top ten sources of stress. These findings concur with those obtained by several researchers (cf Richardsen & Burke ,1991; Sanders et al,1990; Brink et al,1991; Vachon, 1987, Payne & Firth-Cozens, 1987; Richman & Flaherty, 1990; Sutherland & Cooper, 1993). Unit-related stressors constituted a further highly rated stressor, in addition to the type of illness dealt with.

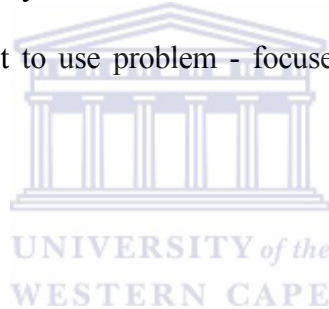


In a study by Vachon (1987), team communication problems, patient and families' expectations and the nature of the unit on which doctors worked were the three most important precipitating factors in stress. Sutherland & Cooper (1990) similarly found demands on knowledge, demands from patients and colleagues demands the most significant stressors. However, Firth-Cozens & Morrison (1987) found dealing with death and dying, relationships with senior doctors, making mistakes, overwork and dealing with patient's relatives to be the most important stressors. Although negligible differences were evident between male and female doctors with respect to these stressors in the present study, discrimination, sexual harassment and role conflict were found to be most problematic for women doctors. This was not evident in the current study, either due to the small sample size, an inadequate number of items being utilised to measure the concept or alternatively these issues may not be prevalent in the organisations researched.

The following conclusions can be drawn with respect to the coping mechanisms utilised by male and female doctors:

- 1) There is no significant mean difference between male and female doctors in respect of emotion-focused and appraisal-focused coping.
- 2) There is a significant mean difference between work-focused coping styles and avoidance coping employed by male and female doctors.

Male doctors utilise more avoidant coping mechanisms than do females, as is evident, for example, by their greater propensity to consume alcohol and use illicit drugs when stressed. Females, however, were more apt to use problem - focused, emotion-focused and appraisal-focused coping mechanisms.



Although few differences were observed in the sources of stress and the coping mechanisms employed, research by Sutherland & Cooper (1990) observed no gender differences either for reported sources of stress or for the coping strategies employed, except that more women asked for help as a coping strategy, which is confirmed in this study.

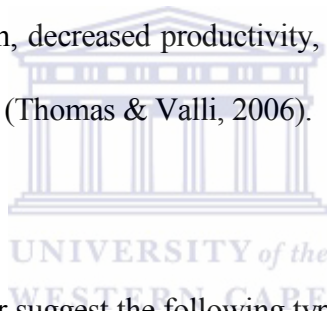
It is evident responses to stress are not invariant and that differences may exist as a function of individual personality, biographical variations, and or task or speciality needs and expectations. Some potential sources of stress could be minimised or eliminated by organisational change in systems and practices, or be improved by skills training, but some stress is inherent to the job and therefore cannot be changed. The following recommendations for future research are based



on the experience and observation that emanated from conducting the present study. It is recommended

#### **5.4 RECCOMENDATIONS:**

Hospitals and other practices focused around medical practitioners should invest in more resources and techniques to reduce stress within this profession. The reason being, that these practitioners play a major role in society and evidently stress can take a toll on them, which could then lead to fatal consequences. Greater emphasis should be placed on reducing stress in the medical profession as high levels of stress could result in similarly high levels of employee dissatisfaction, illness, absenteeism, decreased productivity, and eventually lead to difficulty in providing quality service to clients (Thomas & Valli, 2006).



Halpern et al (2008, p. 146) further suggest the following types of interventions for doctors who experience critical incidents in the process of their job:

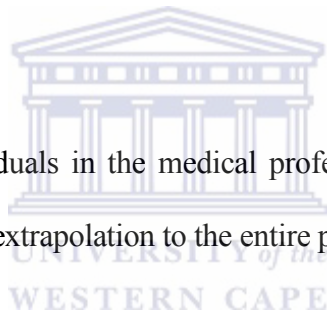
- “Emotional support offered by the supervisor, which consists of: acknowledgment of the incident as critical, valuing the work done by the EMT, concern about the well-being of the EMT, willingness to listen and to offer material help.
- The availability of a brief (often just 1/2–1 h, rarely more than a few hours) timeout period, usually spent in what appears to be casual conversation with peers, but which

serves to decrease emotional hyper arousal and allows for self-titrated release of emotion, in the context of a comfortable, understanding environment”.

1) A similar study be conducted comparing several hospitals nationally (urban/rural) conducted on larger samples and conducted among doctors of different racial groups to make more conclusive statements and to facilitate cross-cultural comparisons.

2) If a similar study is conducted, a proportionate stratified random sample should ideally be utilised to facilitate extrapolation to entire population. This would enhance the scientific quality of the research.

3) A longitudinal study of individuals in the medical profession should be conducted with a representative sample to facilitate extrapolation to the entire population.



The following therapeutic implications are indicated in this study:

1) The findings suggest a need for early detection of distress among doctors.

2) It is suggested the provision of a counselling service for doctors would be beneficial (Cooper, Rout & Faragher, 1989).

3) Life stage plays a significant role in the perception of stress. Needs, expectations and responses to stress vary as a function of age, career stage and other commitments. These issues

must be considered in the identification of stress and subsequent implementation of stress management programmes (Cartwright, 1987).



## REFERENCE LIST:

Alan Stoudemire, M.D., Rhoads, J.M., Durham, M.D. (1983). When the doctor needs a doctor: Special Considerations for the Physician- Patient. *Annals of Internal Medicine*, 98(5), 654-659.

Arnold, H.J. & Feldman, D.C. (1986). *Organizational behavior*. Singapore: McGraw-Hill international editors.

Aydin, K.B. (2010). Strategies for coping with stress as predictors of mental health. *International Journal of human science*. 7(1), 534-548.

Barbour, R.S. (1994). The impact of working with people with HIV/AIDS: A review of the literature. *Social Science and Medicine*, 39(2), 221-232.

Bateman, C. (2011). Fix the damn system! – Johannesburg’s tertiary hospital doctors. *South African Medical Journal*, 101(3).

Baum, A., & Grundberg, N.E. (1991). Gender, stress and health. *Health Psychology*, 10(2), 80-85.

Bowman, M.A., Frank, E., Allen, D.I., (2002). *Woman in medicine – career and life management*. New York: Springer.

Brink, A.J., Bradshaw, D., Benade, M.M.M., & Health, S. (1991). Women doctors in South Africa: a survey of their experience and opinions. *South African Medical Journal*, 80(7), 561-566.

Brewerton, P., Millward, L. (2001). *Organizational research methods: A guide for students and researchers*. New Delhi: Sage publications inc.

Brogan, D.J., Frank, E., Elon, L., Sivanesan, S.P., O'Hanlan, K.A. (1999). Harassment of lesbians as medical students and physicians. *Journal of American medical association*, 282(13), 1290.

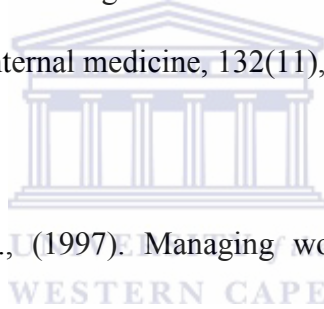
Brown, C. (2008). Doctors' health matters – learning to care for yourself. *Journal of holistic healthcare*, 5( 2), 32-36.

Brown, J.C., & Blakeman, J.D. (1983). *Managing patients and stress effectively: a skills manual for health Professionals*. Springfield: Charles C. Thomas.

Brown-Baatjies, O., Fouché, P., Watson, M., & Povey, J.L. (2006). The biopsychosocial coping and adjustment of female medical professionals. *South African Journal of Psychology*, 36(1), 126–143.

Burnard, P., (1991). *Coping with the stress in the health professions: a practical guide*. London: Chapman & Hall.

Carr, P.L., Ash, A.S., Friedman, R.H., Szalacha, L., Barnett, R.C., Palepu, A., Moskowitz, M.M. (2000). Faculty perceptions of gender discrimination and sexual harassment in academic medicine. *Annals of internal medicine*, 132(11), 889-896.



Cartwright, S., & Cooper, C.L. (1997). *Managing workplace stress*. United States of America: Sage Publications.

Chao, R.C.L. (2011). Managing Stress and Maintaining Well-Being: Social Support, Problem-Focused Coping, and Avoidant Coping. *Journal of Counselling & Development*, 89, 338-348.

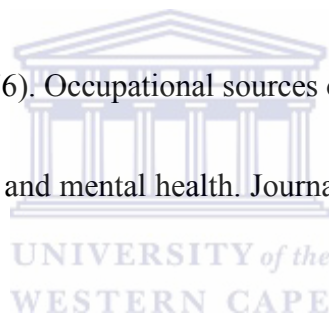
Cherniss, C. (1980). *Staff Burnout: Job stress in the human services*. Sage studies in community mental health. USA: Sage Publications Inc.

Clark, P.A (2009). Prejudice and the medical profession: a 5 year update.

Cohen, D., Rollnick, S., Smail, S., Kinnersley, P., Houston, H., & Edwards, K. (2005). Communication, stress and distress: evolution of an individual support programme for medical students and doctors. *Medical education*, 39, 476–481.

Cook, D.J., Liutkus, J.F., Risdoni, C.L., Griffith, L.E., Guyatt, G.H., Walter, S.O. (1996). Residents' experiences of abuse, discrimination and sexual harassment during residency training. *Canadian Medical Association*, 154(11).

Cooper, C.L., & Marshall, J. (1976). Occupational sources of stress: a review of the literature relating to coronary heart disease and mental health. *Journal of Occupational psychology*. 49, 11-28.



Couper, I.D. (2005). Approaching burnout . *South African family practice*, 47(2), 5-8.

Court, C. (1994). Junior doctors want legislation to cut the hours of work. *British Medical Journal*, 3(1), 11.

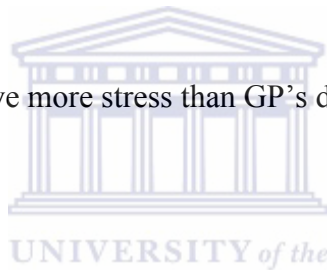
Dekker, H.M., Looman, C.W., Adriaanse, H.P., & Van der Maas, P.J. (1993). Prevalence of smoking in physicians and medical students and the generation effect in the Netherlands. *Social science and Medicine*, 36(6), 817-822.

Dieleman, M., Biemba, G., Mphuka, S., Sichinga-Sichali, K., Sissolak, D., Van der Kwaak, A.,

Elnicki, D. M., Ogden, P., & Wu, E. (2007). Medical student abuse from multiple perspectives. *The Clinical Teacher*, 4, 153–158.

Eliot, S.J. (1995). Psychosocial stress, women and heart health: a critical review. *Social Science and Medicine*.

Finch, R. (2004). Only armies have more stress than GP's do. *Pulse News*.



Finn-Paradis, L. (1987). *Stress and burnout among providers caring for the terminally ill and their families*. New York: Haworth Press.

Folkman, S. (2010). Stress, coping, and hope. *Psycho-Oncology*. 19, 901–908.

Goldberger, L., & Breznitz, S. (1982). *Handbook of stress: Theoretical and clinical aspects*.

USA: The Free press.

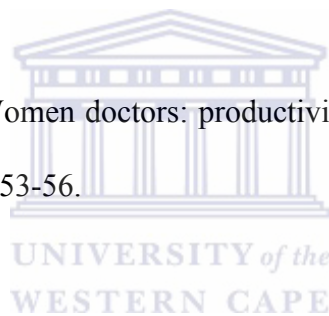


Groenwegen, P.P., & Hutten, J.B. (1991). Workload and job satisfaction among general practitioners: a review of the literature. *Social Science and Medicine*, 32(10), 1111-1119.

Halpen, J., Gurevich, M., Schwartz, B., Brazeau. (2008). Interventions for critical incident stress in emergency medical services: a qualitative study. John Wiley and sons, Ltd. *Stress and health*, 139-149.

Isaac, A., Mash, R.J., (2004). Unsuccessful resuscitation: The families' and doctors' experiences of the unexpected death of a patient. *South Africa Family Practice*, 46(8).

Heins, M., Braslow, J. (1981). Women doctors: productivity in Great Britain and the United States. *Medical education*, 15(1), 53-56.



Heslop, K.A. (1995). Stress in the medical profession: Gender differences and similarities. South Africa: University of Durban Westville.

Kasi, S.V., Cooper, C.L. (1987). Stress and health: issues in research methodology. Chicester: John Wiley.

Kasket, E. (2006). Death and the Doctor. *Journal of the society for Existential Analysis*, 17,1.

Kemp, T.N. (1992). Service conditions for full-time hospital doctors in rural Kwazulu Natal. South African Medical Journal, 81, 492-492.

Komaromy, M., Bindman, A.B., Haber, R.J., Sande, M.A. (1993). Sexual harassment in medical training. The New England journal of medicine, 4(5), 322-326.

Kovner, A.R., Neuhauser, D. (1990). Health services management. Michigan: Health administration press.

Kreitner, R., & Kinicki, A. (1992). Organizational Behavior. USA: Richard D. Irwin Inc.



Labuschagne, M., Robbette, W., Rozmiarek, J., Strydom, M., Wentzel, M., Diedericks, B.J.S., Joubert, G. (2011). Errors in drug administration by anesthetists in public hospitals in the Free State. South African Medical Journal, 101(5), 324-327.

Lenhart, S.A., Evans, C.H. (1991). Sexual harassment and gender discrimination: a primer for women physicians. Journal of American medical association, 46(1), 77-82.

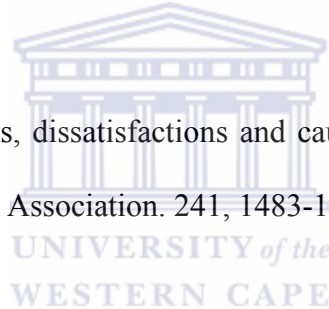
Lepnurm, R., Lockhart, W.S., & Keegan, D. (2009). A measure of daily distress in practicing Medicine, 54(3).

London, I. (2010). HPCSA disciplinary action – custodian of professional morals. *South African Medical Journal*, 100(11).

Martin, C.A., & Julian, R.A. (1987). Causes of stress and burnout in physicians caring for the chronically and terminally ill. *The hospice Journal*, 3, 121-146.

Masia, R.T., Basson, W.J., Litt et Phil, D., Ogunbanjo, G.A. (2010). Emotional reactions of medical doctors and students following the loss of their patients at the Dr George Mukhari Hospital emergency unit, South Africa. *South African Family Practice*, 52(4).

Mawardi, B. (1979). Satisfactions, dissatisfactions and causes of stress in medical practice. *Journal of the American Medical Association*. 241, 1483-1486.



Mizrahi, T. (1984). Coping with patients: Sub-cultural adjustments to the conditions of work among internists in training. *Social Problems*, 32(2), 156-166.

Modiba, L.M. (2008). Experiences and perceptions of midwives and doctors when caring for mothers with pregnancy loss in a Gauteng. *Health South Africa gesonheid*, 139(4).

Moore, T.S., Castle, K.L., Shaw, K.L., Stockton, M.R., Bennett, M.I. (2008). When the caring profession needs care. *The clinical teacher*. 5, 9–13.

Ncayiyana, D.J. (2011). Feminisation of the South African medical profession – not yet nirvana for gender equality. *South African Medical Journal*, 101(1), 5.

Nkosi, P.H., Horwood, C.M., Vermaak, K., Cosser, C., Litt et Phil, D., & Haskins, J.L. (2009). The role of doctors in provision of support for primary health care clinics in KwaZulu-Natal, South Africa. *South African Family Practice*, 51(5), 408-412.

Norman, P., Fitter, M., & Wall, T. (1991). General practitioners subjective experience of surgery workload. *Social Science and Medicine*, 33(2), 61-166.



Payne, R., & Cozens, J.F., (1987). *Stress in health professionals*. Chicester: John Wiley.

Polman, R., Borkoles, E., & Nicholls, A.R. (2010). Type D personality, stress, and symptoms of burnout: The influence of avoidance coping and social support. *British Journal of Health Psychology*. 15, 681-696.

Pretorius, D., Basson, W.J., Litt et Phil, D., Ogunbanjo GA. (2010). Personality profile and coping resources of family medicine vocational trainees at the University of Limpopo, South Africa. *South African Family Practice*, 52(5), 446-450.

Raviola, G., Machoki, M., Mwaikambo ., & Good, M.J.D. (2002). Hiv, disease, plague, demoralization and ‘burnout’; Resident experience of the medical profession in Nairobi Kenya.

Richardson, A.M., & Burke, R.J. (1991). Occupational stress and job satisfaction among physicians: sex differences. *Social Science and Medicine*, 33(10), 1170-1187.

Robbins, S.P., Odendaal, A., Roodt, G. (2003). *Organizational Behaviour: Global and South African Perspectives*. South Africa: Pearson education.

Sadoh, A.E., Sadoh, W.E., Fawole, A.O., Oladimeji, A., Sotiloye, O. (2009). Attitude of health care workers to patients and colleagues infected with human immunodeficiency virus. *Journal of Social Aspects of Hiv/Aids*, 6(1), 17-23.

Sanders, H.R., Barnes, J.M., du Plessis, J.M.E., Muller, A.G.S., & Mostert, J.E. (1990). Aspects of work of women medical doctors in the Cape Province: A preliminary investigation. *South African Medical Journal*, 78, 598-602.

Sekaran, U. (20010). *Research methods for business: A skill building approach*. New York: Wiley and Sons; inc.

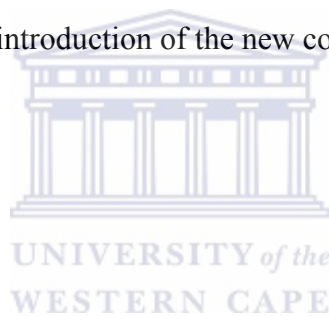
Stebbing, J., Powles, T., (2007). Stress in the workplace amongst medical professionals. *J Postgrad Med*, 53, 83-84.

Stodel, J.M., Stewart-Smith, A. (2011). The influence of burnout on skills retention of junior doctors at Red Cross War Memorial Children's Hospital: A case study. *South African Medical journal*, 101(2).

Sun, G.R., Saloojee, H., Van Rensburg, M.J., Manning, D. (2008). Stress during internship at three Johannesburg hospitals. *South African Medical Journal*, 98(1), 33-35.

Sutherland, V.J. & Cooper, C.L. (1992). Job stress, satisfaction and mental health among general

Practitioners before and after the introduction of the new contract. *British Medical Journal*, 304(6841), 1545-1548.



Thomas, L.S., Valli, A., (2006). Issues in medicine: Levels of occupational stress in doctors working in a South African public-sector hospital. *South African Medical Journal*, 96(11).

Thompson, N., Corbett, S., Larsen, L., Welfare, M., & Chiappa, C. (2009). Contemporary experience of stress in UK Foundation level Doctors. *The clinical teacher*, 6, 83–86.

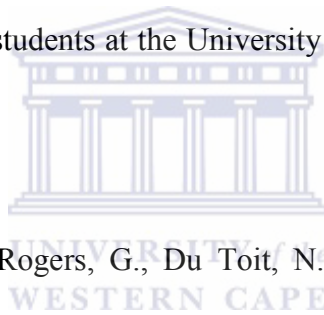
Ullrich, A., & Fitzgerald, P. (1990). Stress experienced by physicians and nurses in the cancer ward. *Social science and medicine*, 39(9), 1013-1022.

Vachon, M.L.S. (1987). Occupational stress in the care of the critically ill, dying and the bereaved. USA: Hemisphere Publishing Corporation.

Van der Wilt, G.J. (2007). We are also dying like any other people, we are also people':

perceptions of the impact of HIV/AIDS on health workers in two districts in Zambia. Health Policy and Planning, 22(3), 139-148.

Van Niekerk, L., Viljoen, A.J., Rischbieter, P., Scribante, L. (2008). Subjective experience of depressed mood among medical students at the University of Pretoria. South African Journal of Pretoria, 14,(1), 27-31.



Van Zyl, L.M., Fernandes, N., Rogers, G., Du Toit, N. (2011). Primary health eye care knowledge among general practitioners working in the Cape Town metropole. South African Family practice, 53(1), 52-55.

Walters, V. (1993). Stress, anxiety and depression: Women's accounts of their health problems. Social Science and Medicine, 36, 393-399.

Wallis, D., De Wolff, C.J. (1988). Stress and organizational problems in hospitals: implications for management. London: Croom Helm.

Warshaw, L.J. (1982). Managing stress. Reading mass: Addison Wesley.

White, B., O'Connor, D., Garrett, L. (1997). Stress in females. *Women in management review*, 12(8), 325-334.

Wong, J.G.W.S., Path, N.G., Beh, S.L., Cheung, E.P.T., Wong, V., Chan, LC., & Lieh Mak, F.L. (2005). Cultivating psychological well-being in Hong Kong's future doctors. *Medical Teacher*, 27(8), 715-719.

