LEVELS AND CAUSES OF STRESS AMONGST NURSES IN PRIVATE HOSPITALS: GAUTENG PROVINCE

By

Nadia Gibbens

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Study leader **Dr A. Joubert**

Co-study leader **Dr H. van den Berg**

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LEVELS OF STRESS AND THE CAUSES THEREOF AMONGST NURSES IN PRIVATE HOSPITALS, GAUTENG PROVINCE.

Nadia Gibbens

Care giver, Professional nurse,
part-time student, wife, daughter,
colleague and friend.

To Quentin with love

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LIST OF ABBREVIATIONS

DCEP	Department of Consumer and Employment Protection
DENOSA	Democratic Nurses Organisation of South Africa
HASA	Hospital Association of South Africa
HSE	Health and Safety Executive
HIV	Human Immunodeficiency Virus
ILO	International Labour Organisation
IOL	Independent Online
NIOSH	National Institute of Occupational Safety and Health
SA	South Africa
SANC	South African Nursing Council
TB	Tuberculosis
UK	United Kingdom
US JCAHO	United States Joint Commission on the Accreditation of Healthcare Organizations
WLQ	The Experience of Work and Life Circumstances Questionnaire

Interpretation of scores of the WLQ (Chapter 5)

LS	Level of Stress (Score 1)
COWE	Causes Outside the work environment (Score 2)
CWWE	Causes within the work environment (Score 3-8)
OF	Organisational function (Score 3)
TC	Task characteristics (Score 4)
PWC	Physical working conditions (Score 5)
CM	Career matters (Score 6)
SM	Social matters (Score 7)
RFP	Remuneration, Fringe benefits and Personal Policy (Score 8)

PREFACE

" The master speed
And you were given this swiftness, not for haste
Nor chiefly that you may go where you will,
But in the rush of everything to waste,
That you may have the power of standing still."

Robert Frost (Date unknown)

Never would I have thought that this dissertation would be done. It all started with a dream, an idea to and a longing to heal were healing should be expected. This dissertation is primarily aimed at all the nurses; professional-, staff nurses and nursing auxiliaries, looking after us when we most need care, comfort and compassion.

I have been motivated to conduct this study by the belief that nurses in South Africa are not adequately looked after while caring for the nation. It is expected from them to ignore the dangers, cope with their own feelings of sadness, anger and frustration, to make do with what they have and to go the extra mile all for the sake of the patient. Are they not the ones requiring care as well? With all they have to bear their level of stress and perhaps burnout remains a self-contained matter for their own resolution and deed.

This dissertation aims to address such a need in a manner where both the organization and the nurse, within the borders of South Africa, are enlightened to the level of stress professional-, staff nurses and nursing auxiliaries' experience. Though this problem has national-, or in mere fact international coverage, it is a private hospital group in the Gauteng Province that served as the population for this study.

Throughout Chapter 1-7 I have tried to ensure the format and flow of this document, on the readers eyes, in order to make it as effortlessness as possible. Figures and tables have been integrated with the text with the intention of prior mentioned as the primarily reason as well as ease of reference.

Many trials and tribulations have gone into this dissertation, sacrifices were made, tedious excuses offered, vacations missed, but at the end it seems as if a lot was learned, tolerance acknowledged and a dream made public.

I would like to thank Dr A. Joubert and Dr H. van den Berg, my study leader and co-study leader, their comments and suggestions as well as time spend have been extremely valuable to me. The staff at the Department of Biostatistics can be commemorated for their unfailing assistance in the analysis of the data gathered. To my proofreader, Madelein, you have done me proud, thank you for your dedication, hasty response and affability.

I especially want to thank my husband, companion, cook and bottle washer for all your dedication. Quentin without you this would not have been possible. You beard the constant grunt, frustration and sleepless nights - for that I can never repay you!

To my family, blood born and related by marriage, your steadfast concern and unsurpassed motivation helped me to commit when times were hard. You always believe in me – thank you!

I am grateful for my friends and colleagues for their encouragement, support, QC skills as well as technical assistance.

Furthermore I also owe a special word of appreciation to the private hospital group, mentioned in this research study, which not only offered the help of their nurses but also assisted financially in the duplication of the questionnaires as well as the binding of this study. Though they requested to remain anonymous throughout the facilitation of this project one can only accentuate their willingness and dedication to participate in research.

Lastly I need to thank the Lord for giving me the power to turn a dream into a reality. As I look back today I see that mostly only one pair of footprints are visible in the sand – I thank You!

ABSTRACT

The purpose of this study was to determine the levels and causes of stress amongst nurses in private hospitals within the Gauteng Province. Specific focus was drawn to three nursing categories: professional- and staff nurses as well as nursing auxiliaries. The specific objectives were to determine the perceived levels of stress in concurrence with diverse socio-demographic characteristics, influence of non-work-related causes of stress, work-related factors contributing to stress within the work environment as well as the methods of coping utilised.

The levels and factors of stress amongst the different nursing categories, including suggestive recommendations, to the organisation involved, also formed part of the objectives for this study. The study design was an analytical, cross-sectional research design involving the three specified nursing categories. From these three categories 588 respondents were selected according to a convenience or availability sample from similar wards within four predetermined hospitals of the selected private hospital group: 370 professional nurses, 157 staff nurses and 61 nursing auxiliaries.

The Experience of Work and Life Circumstances Questionnaire (WLQ) were used as measuring instrument and were preceded by a section regarding socio-demographic questions. The number of complete and unspoiled questionnaires received was calculated at 116 (59.18%) professional nurses, 45 (22.96%) staff nurses and 35 (17.86%) nursing auxiliaries. Skewed or asymmetrical data were obtained and thus lead to the use of only non-parametric methods. The only possible significant correlations with the level of stress, as revealed by the analysis, involved race, in particular Black/African nurses, non-work related causes of stress, causes of stress within the work environment with specific reference to organizational functioning, task characteristics, the physical working environment itself and social matters.

These results were however not statistically significant for a specific nursing category. It is suggested that further research is conducted to facilitate the design of a comprehensive model and questionnaire specifically for nurses. Further research should also include nursing students into the nursing population and investigate the

level of stress of Black nurses within South Africa. It is also suggested that the organisation, that were selected for the purpose of this study, should focus on all statistical significant areas as previous mentioned for the prevention, combating and management of all causes of work-related stress.

Keywords: stress, causes, nursing categories; professional nurses, staff nurses, nursing auxiliaries

OPSOMMING

Die doel van hierdie studie was om die vlakke van stres en die oorsake daarvan onder verpleegpersoneel te bepaal in die Gauteng Provinsie. Daar was spesifiek gefokus op drie verpleegkategorieë: professionele verpleegkundiges, staf verpleegkundiges, verpleeg assistente. Die doelwitte was gefokus op die selfwaargeneemde vlakke van stres in samehang met die sosiodemografiese karakteristieke, invloed van oorsake van stress buite-werksverband, oorsake van stress binne-werksverband asook metodes gebruik vir streshantering.

Die vlakke van stress onder die verskeie verpleegkaregorieë, insluitende aanbevelings aan die betrokke organisasie, is geag as deel van die studie se doelwitte. Die navorsingsontwerp is geken aan ‘n analitiese kruis ondersoek wat die drie spesifieke verpleegkategorieë ingesluit het. Van hierdie drie kategorieë was 588 respondente geselekteer na aanleiding van ‘n gerieflikheids of beskikbare steekproef vanuit soortgelyke sale oor die vier vooraf geselekteerde privaat hospitale: 370 professionele verpleegkundiges, 157 staf verpleegkundiges en 61 verpleeg assistente is ingesluit.

Die Ervaring van Lewens- en Werksomstandighede (WLQ) vraelys was gebruik as meetinstrument insamehang met ‘n afdeling rakende die sosiodemografiese vrae. Die aantal voltooide en bruikbare vraelyste was bereken op 116 (59.18%) professionele verpleegkundiges, 45 (22.96%) staf verpleegkundiges en 35 (17.86%) verpleeg assistente. Aangesien die analise skewe of asimetriese resultate weergegee het is slegs nie-parametriese metodes gebruik. Na aanleiding daarvan is swart verpleegkundiges, oorsake van stres buite-werksverband en oorsake van stress binne-werksverband, met spesifieke verwysing na die funksionering van die organisasie, taak kenmerke, fisiese werksomgewing en sosial aangeleenthede, die enigste noemeswaardige vergelykings wat getref is met die vlak van stres.

Hierdie resultate was egter nie statisties beduidende vir enige van die drie verpleegkategorieë nie. Daar word egter aanbeveel dat verdered navorsing

onderneem word ter ontwikkeling van ‘n meetinstrument en model spesifiek vir die verpleegkundige. Verdere navorsing moet die verpleegstudent ook inagneem en fokus op swart verpleegkundiges in Suid-Afrika. Die betrokke organisasie in die studie word egter aangeraai om te fokus op alle statisties beduidende resultae, soos reeds genoem, om sodoende die voorkoming, bestryding en hantering van werksstress te bewerkstellig.

Sleutel woorde: stres, oorsake, verpleegkategorieë, professionele verpleegkundiges, staf verpleegkundiges, verpleeg assistente

The selected private hospital group's management requested that all identifiable data be excluded from the research study for the purpose of confidentiality. The name of this organisation has therefore not and will not be published without the written consent from the academic board of the hospital group in question (see Chapter 4).

CHAPTER 1

INTRODUCTION AND PROBLEM STATEMENT, BRIEF RESEARCH METHODOLOGY, AND SYSTEMATIC OUTLINE OF THE RESEARCH PLAN

1.1 INTRODUCTION AND PROBLEM STATEMENT

It has been agreed that, in the caring profession, nurses form the largest group of which the principal mission is the nurturing of and caring for people in the human health experience. They provide around-the-clock services to patients in hospitals, nursing homes, long-term care facilities, as well as to clients using supportive and preventative programs and related community services (Kipping, 2000:207).

The nursing profession follows a holistic approach, taking account the person in totality in his or her environment. Nurses provide presence, comfort, help and support for people confronted with loneliness, pain, incapacity, disease and even death. The fact that nursing has been extensively and unfailingly recognized worldwide as a stressful job is therefore not surprising (Farrington, 1995:574).

As a result, researchers have linked occupational stress to disease and illnesses experienced by nursing professionals (Norrie, 1995:294). In the first half of the 1990s nurses, midwives and other health care workers topped the record board for the most female suicides in the United Kingdom (Day, 1995:7). Nurses who are stressed are more likely to have an increased incidence of absenteeism (Easterburg, Williamson, Gorsuch & Ridley, 1994:1233), which in turn not only results in a lack of continuity in care but also contributes to the nursing turnover (Kipping, 2000:207). Furthermore, an increased amount of interpersonal conflict has been noted in work context; nurses experience feelings of inadequacy, suffer from self-doubt, lowered self-esteem, irritability, depression, somatic disturbances and sleep disorders, all of which jeopardize the quality of care they provide (Hillhouse & Adler, 1996:297). Eventually burnout will set in due to chronic stress and may impact negatively on the nurse-patient relationship (Kipping, 2000:207).

Since occupational stress is more prominent in this caring profession, it is not surprising that many researchers emphasise the high risk for burnout noted in the nursing population (Omdahl & O'Donnell, 1999:1352; Shimomitsu, Ohya & Odagiri, 2003:147; Visser, Smets, Oort & de Haes, 2003:272; Duquette, Kerouac, Sandhu & Beaudet; 1994:338). Globally, the science of occupational health has gained momentum since the late 1970s, with South African burnout and occupational stress research studies appearing from the 1980's (Van Graan, 1994:22).

The South African perspective has focused mostly on stress-related factors within the nursing environment. For example, a research article revealed that there is a number of nurses who lack the authority to act – but do not comply and act out of sheer desperation, using their own frame of reference in the hesitancy or absence of the physician (Aitken, 2004/5:45; Cronqvist, Theorell, Burns & Lützén, 2001:233). This issue not only increases the level and severity of stress endured by the nurse but also increases the risk of serious ethical dilemmas.

The above-mentioned example of unauthorised and out of scope autonomy is only one of numerous factors affecting nurses' physical, psychological and emotional experience of stress. Some of these factors are also better known as push and pull factors, with specific reference to international/global migration of nurses from South Africa (Mafalo, 2005/2006:14). One such a push factor is the contribution of job-related stress to nurses leaving the profession, switching to an alternative career path (Hospital Association of South Africa, 2005), the consequent brain drain (Sanders & Lloyd, 2005:76) and a subsequent critical shortage of nurses (Mzolo, 2005:9).

Globally governing and regulatory bodies, organisations, sectors, hospital groups, managerial panels, supervisors, professional- and staff nurses, as well as nursing auxiliaries, are affected by the current state of affairs in the nursing profession and the subsequent effect of the stress nurses experience at work (Enslin, 2005:31). All have their pressing questions, blatant opinions, undoubted criticism and perhaps promising solutions. However, feasible solutions should be proclaimed and implemented as the primary client, the health care consumer, is neglected while the distress of nurses continue (HASA, online: 2005). The information above sets the background for the number of aims and stated objectives for this research study.

1.2 AIM AND OBJECTIVES

1.2.1 AIM

The main aim, as proposed by the researcher, is to determine the levels of stress and the causes thereof amongst professional- and staff nurses and nursing auxiliaries in private hospitals in the Gauteng Province.

1.2.2 SPECIFIC OBJECTIVES

In order to achieve the stated aim the objectives will be:

(a) To determine the following amongst nurses in the Gauteng Province:

- their perceived levels of stress;
- the contribution of diverse socio-demographic characteristics on the level of stress;
- the possible influence of non-work related causes of stress on the experienced level of stress;
- the possible work-related factors contributing to stress within the work environment; and
- the methods of coping utilised to deal with work-related stress.

(b) To compare the levels and factors of stress amongst the different categories of nurses.

(c) To make recommendations with regard to measures that can be implemented by the organisations to deal with occupational stress experienced by professional-, staff nurses and nursing auxiliaries working in private hospitals in the Gauteng Province.

1.3 METHODOLOGY

The research methodology is described briefly within this chapter. However, a comprehensive description will be presented in Chapter 4.

1.3.1 RESEARCH DESIGN

As proposed, the research will incorporate numerical values to determine the non-numerical characteristics of the stated objectives. This will be accomplished mainly with the use of an analytical, cross-sectional research design (cf Burns & Grove, 2001:255).

1.3.2 POPULATION

Individuals who meet the sampling criteria for this research study will be selected by the researcher (Burns & Grove, 2001:292) to incorporate professional- and staff nurses as well as nursing auxiliaries, employed by a private hospital group in the Gauteng Province. As no studies regarding work-related stress within the private nursing sector could be found, more emphasis was placed on

the selection of this sector as represented in this section. In total, the Gauteng division of the private hospital group consists of 28 hospitals in two regions, namely the Gauteng West and Gauteng East/Pretoria regions.

1.3.3 SAMPLE

The researcher will select 370 professional nurses, 157 staff nurses and 61 nursing auxiliaries performing day duty as part of the predetermined population, using a purposeful selection sampling. This sample was divided into the three selected nursing categories stated above. Similar wards within four predetermined hospitals of the selected private hospital group were chosen in conjunction with the preferred sample technique, namely a convenience or availability sample.

1.4 MEASURING INSTRUMENT

A structured questionnaire will be used as a data-gathering instrument (see Appendix H & I). This proposed questionnaire consists of two divisions: a biographical questionnaire gathering socio-demographic data and the Experience of Work and Life Circumstances Questionnaire (WLQ). The researcher has compiled the initial section while the latter is a formerly developed and tested instrument of the Human Science Research Council (*cf* Van Zyl & Van der Walt, 1994:24). It should also be noted that a single open-ended question has been added to the socio-demographic data section, prompting the respondents to state their individual coping method.

1.5 PILOT STUDY

A pilot study will be conducted with 12 nurses: four professional-, four staff nurses and four nursing auxiliaries. This smaller scale study will be performed at another hospital within the chosen private hospital group. Following this pilot study, the main study will be carried out, with the possible incorporated changes identified and incorporated or implemented accordingly.

1.6 VALIDITY AND RELIABILITY

As both the validity and reliability of the WLQ confirmed in previous research, it will be described in more detail in Chapter 4. In brief, the WLQ has been measured in relation to content-related validity (Van Zyl et al, 1994:22) as well as intra- and inter test methods (Van Zyl, et al, 1994:26). A correlation coefficient ranging from 0,35 to 0,92 (Van Zyl, et al, 1994:25) was

found and the construct validity was assessed in comparison to the three corresponding measurements (Van Zyl, et al, 1994:26).

Reliability of the WLQ, on the other hand, has been determined not only in terms of the test-retest coefficient, but also by means of the alpha coefficient, which has been calculated for all sections of the WLQ (Van Zyl, et al, 1994:25). Due to an added Demographic Data section within the measuring instrument of this research study, reliability will be ensured by means of motivation of the respondents and direct assessment thereof, incorporated in the planned pilot study.

1.7 ETHICAL CONSIDERATIONS

The Expert and Evaluation committees, School of Nursing, and the Ethical Committee, Faculty of Health Sciences, as well as the selected private hospital group, were approached to request ethical approval for the study, while each of the four selected hospitals was asked to award approved permission for the researcher to enter and conduct the research (see Appendix A to D). Written consent will also be obtained from each individual respondent (see Appendix E & F).

1.8 DATA COLLECTION

The questionnaire utilised in this study will be issued to the respondents with an accompanying letter explaining the purpose and procedure of the study, motivating and assuring respondents' anonymity and confidentiality and indicating the approximate time for completion thereof. The letter will also indicate that respondents have the right to withdraw at anytime and are thus not obligated to participate against their will. The data collection will take place over a period of four days; hereafter the researcher will code all data.

1.9 DATA ANALYSIS

The levels of stress, as well as the non-work related and work-related factors contributing to stress will be determined according to an existing scoring stencil (see Addendum J). Descriptive statistics, namely means and standard deviations or medians and percentiles for continuous data and frequencies as well as percentages for categorical data, will be calculated per category. Data obtained from each category will be compared by means of 95% confidence intervals. Staff of the Department of Biostatistics of the University of the Free State will perform the statistical analysis.

1.10 DATA INTERPRETATION

The results collected will be interpreted (see Appendix K) by the researcher, possible conclusions will be drawn, recommendations made and limitations identified. The final report will be presented to the School of Nursing, University of the Free State, as well as the management of the selected private hospital group.

1.11 RESEARCH REPORT

Following this chapter, a theoretical foundation to stress will be presented in Chapter 2. The consecutive chapter will provide an in-depth discussion of the measurable construct of stress with specific reference to the nursing profession within South Africa. Not only is previous research incorporated, but also the components covered in the measuring instrument will be integrated into the discussion. This is presented in Chapter 3.

Chapter 4 includes the comprehensive research methodology, while Chapter 5 provides the results of this investigation. A discussion of the results obtained for this investigation and mere interpretation thereof can be located in Chapter 6. Finally, Chapter 7 concludes with a summary of this research study and a list of recommendations. This chapter also offers a conclusion to the investigation as a subsequent outcome of the results obtained.

A list of abbreviations is presented prior to Chapter 1.

CHAPTER 2

THEORETICAL FOUNDATION TO STRESS

2.1 AIM OF CHAPTER

In the previous chapter the reader was introduced to the aims and methodology of this study, with specific attention to the problem statement and systematic outline of the research plan. The current chapter though reviews the theoretical foundation of the conceptualisation of stress, with specific reference to work-related stress.

In Chapter 2, the researcher will attempt to provide a clear structure for the presentation of existing knowledge and research in the field of stress. In Chapter 3, the same structure will be used for the discussion of stress within the nursing profession.

2.2 EXTENT OF THE PROBLEM

Throughout the world, research has shown that work-related stress is a significant problem and represents a major challenge to occupational health (European Agency for Safety and Health at Work, 2002:10). Individuals and organisations struggle to keep up with, and ultimately bow to the dramatically changing nature of work due to globalisation of the economy, the use of new information and communications technology, growing diversity in the workplace, and an increased mental workload. Work-related stress is a common and costly problem that leaves few workers untouched (Kennedy & Grey, 1997:26; Muscroft & Hicks, 1998:1317; National Institute of Occupational Safety and Health [NIOSH], 2002:2).

It is therefore not surprising that previous research has found in excess of 600 million working days being lost across the European Union per annum due to work-related stress (European Agency for Safety and Health at Work, 2002:10). In America, problems at work are more strongly associated with health complaints than any other life stressor – even more than financial or family-related problems (Humphrey, 1992:19). At a global perspective symposium on job stress prevention held in Okayamain, Japan during August 2005, Prof Ian Rothmann portrayed the South African perspective on the outcome of the problem at hand. He showed that job stress not only results in high costs to the SA

economy but that the country also has to contend with a lack of guidance in the areas of law and statute with regard to dealing with psychosocial stress (Rothmann, 2005:1).

The extent of this global problem can only be better understood and appropriately managed if all stakeholders are better informed about the theoretical concept of stress. Considering a number of definitions of stress, the available approaches to stress can be examined in context with the specific models incorporated into previous research, the process of stress, and stress responses, along with the associated causes and effects in conjunction with individual differences. In this regard, it would be possible not only to assess stress, but also to identify specific management objectives applicable to work-related stress. These are the points that are addressed from this point forward in this chapter.

2.3 DEFINITIONS OF STRESS

There have been many different definitions of stress proposed by researchers, psychologists, medical professionals, management consultants or other individuals over the past hundred years. Many conflicting definitions of stress appeared in the literature, with passionate debates and arguments defending and opposing different definitions (Manktelow, 2005:2). A complication that arises from the confusion surrounding the definition of stress is that all individuals instinctively feel that they know what stress really is, having experienced it at one stage or another (Steptoe, 1997:2). One therefore expects that it should be easier to formulate a clear definition of stress.

As stress is multi-faceted, a single definition will not suffice. Stress is considered a cluster of related experiences, pathways, responses and outcomes caused by a range of different events or circumstances that affect respective individuals differently (Manktelow, 2005:3).

One seminal researcher in the field of stress realized in the late fifties that all operational definitions of stress differed according to the occupational perspective of the person formulating the definition (Seyle, 1956:160). To a lawyer or linguist, words have an

exact, distinct and fixed meaning, while in other fields; definitions continue to develop as research and knowledge in this field expand.

Back in time, though, the word 'stress' was borrowed from the field of physics. Humans were thought to resemble certain characteristics of objects such as metals that resisted moderate outside forces, but lost their pliability at a point of greater pressure (Hobfoll & Vaux, 1993:113). The first modern researcher to apply the concept to humans was Walter Cannon in 1932. He was primarily concerned with the influence of less complex factors such as the effect of cold, lack of oxygen and other environmental stressors on organisms. Later he concluded that an individual could withstand an initial low level of stressors, but indicated that long term or severe stressors lead to a breakdown of biological systems when the capacity to tolerate pressure is exceeded by the intensity of duration of the stressor (Hobfoll et al, 1993:114).

Hans Seyle supported the notion of Cannon, who emphasised stress as a response to factors impacting on the individual. Seyle expressed the opinion that stress itself is not always destructive, as it depends on the manner in which it is perceived (Seyle, 1956:16). The stress experienced from an exciting, creative and successful task is considered positive, while that of dullness, failure or degradation is deemed negative. He also believed that the biochemical effects of stress would always be experienced, whether the situation was perceived as positive or negative.

Since Seyle's initial findings, a great deal of research has been published in which perspectives and ideas changed, some subtle, others more drastic (Manktelow, 2005:4). Seyle's initial findings on stress, with regard to positive or negative situations, were rejected, as stress was mostly viewed as a negative phenomenon, with associated harmful biochemical and long-term effects. These effects have seldom been reported in correlation to positive situations (Manktelow, online: 2006).

One of the more commonly adopted definitions of stress is the definition formulated by Cox and Mckay. They define stress as part of a complex and dynamic system of

transactions between the individual and his/her environment (Cox, 1978:18) (see Figure 2.1: Interactional/transactional model of stress). This description of stress is diverse as it intentionally draws from both response-based and stimulus-based definitions, as referred to by previous researchers (Cox, 1978:19). By incorporating these two approaches emphasis is placed on the ecological and transactional nature of the stress phenomenon.

2.4 APPROACHES AND MODELS

The specific nature of the stress phenomenon has been reviewed from a closer, in-depth perspective and found to be well documented in various different literature reviews and related studies. The documented information portrays stress as three basic, different yet overlapping approaches, structures or models; all associated with the definitions as stated above: the stimulus-based or engineering approach, response-based or medico-physiological approach and finally the interactional/transactional approach. These three approaches dominate the body of research on stress (Cox, 1978:3, Cox & Griffiths, 1995:06).

The engineering or stimulus-based approach (Derogatis & Coons, 1993:93) explains work-related stress as a dependent variable and an aversive or harmful characteristic or stimulus. Direct emphasis is placed on the work environment as well as on the environmental causes of ill health, including the response of an individual towards some adverse or noxious element of the environment (Cox, Griffiths & Rial-Gonzalez, 2000:10; Cannon, 1932 & Seyle, 1950; In: Sutherland & Cooper, 1990:221). Stress, as defined according to this approach, produces a strain reaction as illustrated in Figure 2.1 (Derogatis & Coons, 1993:93).

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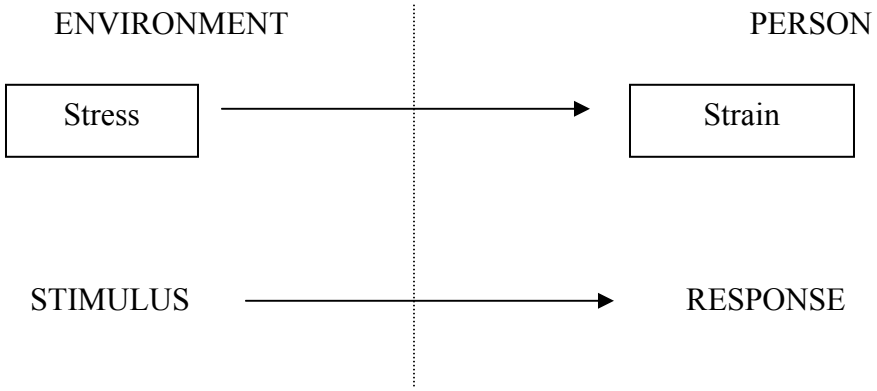

Figure 2.1 Stimulus-based (Engineering) model of stress

The second approach emphasises stress as an independent variable, a generalized and non-specific response characterised by the physiological effects of a wide variety of aversive or harmful stimuli, stimuli characteristics of deleterious environments (Margetts, 1975:190 & Welford, 1973:567); also termed the physiological- or response-based approach to stress (Sutherland et al, 1990:37,39). See Figure2.2 (Cox, Griffiths & Rial-Gonzalez, 2000:26).

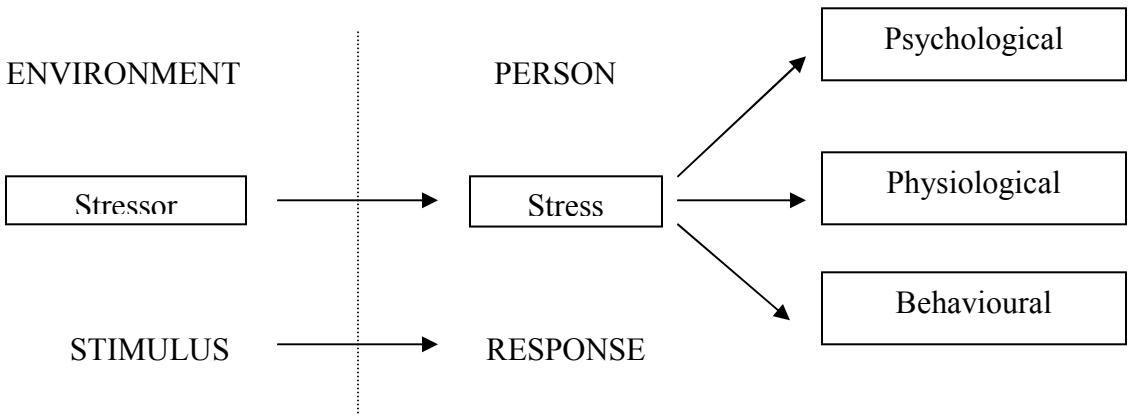

Figure 2.2 Response-based model of stress

The third approach, perhaps the most comprehensive and frequently used (Allman, 1986:22; De Villiers, 1986:28; Gerber, 1988:11; Ludik, 1988:29; Moerdyk, 1983:13; Peterson, 1986:17; Van Rheede van Oudtshoorn, 1985:54), emphasises the dynamic interaction and transaction between the individual and his/her work environment (Folkman & Lazarus, 1984:150; Folkman, Lazarus, Dunkel-Schetter, DeLongis & Gruen, 1985:993), in other words via the psychological approach (Cox et al, 2000:11; Cox, 1978:18). This approach is illustrated in Figure 2.3.

Essentially, these are the three different approaches relevant to the study of stress. Though researched by various individuals, these approaches should still be brought under scrutiny. The most relevant approach to this study will be discussed in more detail as the remarks on the remaining two approaches are only stated briefly.

The first two approaches, the engineering or stimulus-based approach and the physiological or response-based approach, have been subjected to a lot of scrutiny, which resulted in the criticism thereof. It has been said that these two approaches treat the individual as a passive medium for translating the stimulus characteristic of the environment into psychological and physiological response parameters (Cox et al, 2000:11). These approaches have been judged inadequate both in terms of their ability to account for the available data and in terms of their theoretical sophistication (Ahasan, Mohiuddin, Vayrynen, Ironkannas & Quddus, 1999:386). Essentially, the interaction between the individual and his/her various environments are ignored largely and to the neglect of the core key description of the system-based approaches (Cox & Griffiths, 1994:11).

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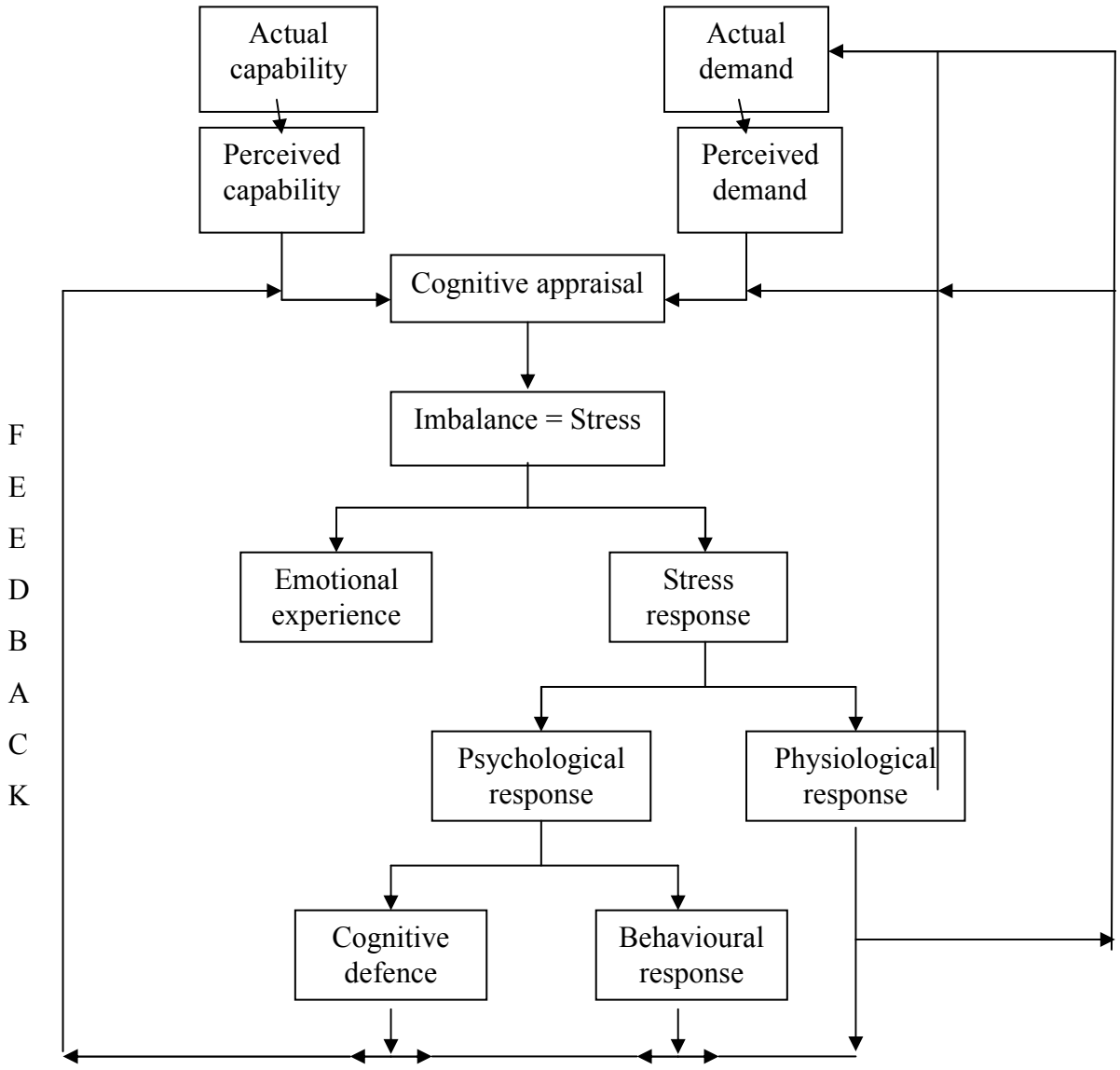


Figure 2.3 Interactional/Transactional Model of Stress

On the other hand, the psychological approach emphasises the environmental factors with specific regard to the psychosocial and organisational context of work-related stress (Cox et al, 2000:11). Stress is either secondarily related to the existence of problematic individual-environment interactions or measured in terms of cognitive processes and emotional reactions of an individual, which emphasizes those interactions (Cox et al, 2000:12).

The development of the psychological approach was governed mostly in an attempt to alleviate the criticism of the first two approaches and to increase the consideration of occupational health and research to follow (Cox et al, 2000:11). As proven, this approach portrays a consistency with the International Labour Organisation's definition of psychosocial hazards (International Labour Organization, 1986), as well as the World Health Organisation's definition of well-being (1986:35), which states that well-being is a dynamic state of mind characterised by reasonable harmony between a person's abilities, needs, and expectations, and environmental demands and opportunities (WHO, 1986:35). It is also stated that the individual's subjective assessment is the only valid measure of well-being available (Levi, 1992:35). Finally, this approach includes a comparison between developing literature and personal risk assessment (Cox & Cox, 1993:12).

With the psychological approach, two basic variants can be distinguished: an interactional and transactional facet or mere model. On the one hand, the interactional model focuses on the structural characteristics of the individual's interaction with his/her work environment (Cox et al, 2000:11). On the other hand, the transactional model not only emphasises the psychological mechanisms governing the interaction, but also represents the development of the interactional models (Cox et al, 2000:12).

In summary, this approach expresses the view that stress evolves through the existence of a particular affiliation between the individual and his environment (Folkman et al, 1984:150; Folkman, et al, 1985:993; Cox, 1978:18). Based on the background presented here and the psychological approach in particular, Cox and Mckay define stress as part of a complex and dynamic system of transactions between the individual and his/her environment (Cox, 1978:18) (see Figure 2.3: Interactional/transactional Model of Stress).

This description of the stress system, as seen in Figure 2.3, is diverse in that it deliberately draws from both response and stimulus-based definitions, but in so doing, it emphasises the environmental and transactional nature of the phenomenon. It

accentuates stress as an individual perceptual phenomenon, rooted in psychological processes and focuses on the feedback components of the system itself (Cox, 1978:18). A better understanding of this phenomenon can be enhanced by portraying the five recognizable stages of the Interactional/transactional model of stress, also better known as the stress process.

2.5 THE STRESS PROCESS ACCORDING TO THE TRANSACTIONAL MODEL OF STRESS

The wider contents of the stress process in context of the interactional/transactional approach has been defined as including the following five stages: demands the person have to comply with; the individual's perception of these demands; psychophysiological changes; outcome of coping action or response by individual; and feedback and feed forward response (Cox et al, 2000: 41).

2.5.1 STAGE 1

This stage is recognized by the origin of the demand with direct relation to the person, integrated with his/her environment. In this case the demand can be perceived as part of the external environment, while the psychological and physiological needs can be recognized as the internally formed demand as stipulated by the model (Cox et al, 2000: 42). The fulfilment of these needs constitute a person's behaviour (Cox, 1978:18).

2.5.2 STAGE 2

The person's perception of the demand, as well as the individual ability to cope, forms part of Stage 2. It is believed that stress can be the result of an imbalance between the perceived demand and the person's perception of his capability to meet the demand. It is of cardinal importance to realize that stress is not the result of the demand and the actual capability but the perceived demand and the perceived capability. Therefore, the emphasis is placed on a person's cognitive appraisal of the stressful situation at hand and his ability to cope. The person will thus experience stress, or an imbalance, when he perceives that his limitations have been reached, in other words, that the perceived demand exceeds his perceived capability. This perceptual factor differentiates from

individual to individual, as personality traits, amongst various factors, constitute the outcome. This imbalance is associated with emotional expressions, accompanied by changes in the physiological state as well as by cognitive and behavioural attempts to reduce the stressful nature of the perceived demand/stressor, in other words the direct result of psychophysiological changes. (Cox, 1978:18, Cox et al, 2000:42).

2.5.3 STAGE 3

The psychophysiological changes, as mentioned above, is considered as the next stage and characterised by the person's response to stress. Although this stage is often seen as the result of a demand or stressful situation, it should in fact be regarded as the individual's coping skills, either positive or negative (Cox, 1978:20, Cox et al, 2000:43). The noted response of an individual to stress and means of coping with the demands enforced by the stressors are discussed in more detail in two separate sections to follow.

2.5.4 STAGE 4

The outcome of the coping action, or response displayed by the individual, is also an easily forgotten, but most essential part of the stress process. It is here that the actual, as well as perceived, outcome should be considered (Cox, 1978:20, Cox et al, 2000:43). The concern is therefore mainly focussed on the consequences of coping.

2.5.5 STAGE 5

The fifth and final stage of the model is considered as the feedback and feed forward response, not only as a final result after the consequences have occurred, but in fact at the level of all preceding stages. The outcome of each stage can thus be shaped accordingly if this fifth stage is implemented in the correct manner (Cox, 1978:20, Cox et al, 2000:43).

These five stages not only define the stress process as such, but also lay a foundation for further discussion as a backdrop to the interactional/transactional approach. An understanding of this process can also facilitate the association of the causes of stress, might it be within or outside of the work environment.

2.6 CAUSES OF STRESS

Consistent with the transactional model of stress, the causes of this phenomenon are considered to be the result of an imbalance between the individual and the work environment. In this regard, specific reference is made to the characteristics, skills and abilities of the individual and how well he/she fits in with the demands of the work environment (Cotrell, 2001:158). The current study, however, draws the focus closer by grouping causes of stress under two main categories: sources of stress outside of the work environment and sources of stress within the work environment. The former includes the individual, interpersonal and social sources of stress, while the latter covers all sources initiated from the job itself and the organisation. These two main categories are reflected in the two categories used in the research study questionnaire.

2.6.1 FACTORS OUTSIDE OF THE WORK ENVIRONMENT

It has been confirmed that problems outside of the work environment contribute to stress. These problems cannot only make it difficult for the individual to cope with the pressures of work, but also influence his/her performance to an extent, the magnitude of the influence depending on various intrinsic as well as extrinsic factors (Taylor, 1999:77). Death or sickness in the family, a temporary setback or other personal problems may exacerbate the situation and influence the way in which the individual copes with the pressures of work (Cotrell, 2001:158). Relationship problems outside of the work context, including a poor support structure; instability between work and family or personal life, self-esteem, financial pressures, the economic outlook of the country and current political state of affairs all pressure the individual to a curtain extent. Although these causes outside the work environment all affect the individual, not all aspects thereof are covered by the questionnaire used in this study. More extensive aspects are covered, though, with regard to the causes of stress within the work environment.

2.6.2 WORK-RELATED CAUSES OF STRESS

The interaction between an individual's characteristics as a worker and the work environment is generally believed to result in stress (Tyson, Pongruengphant, &

Aggarawal, 2002:454). Views differ, however, on the importance of individual characteristics or differences versus the working environment as the primary cause of work-related stress. However, these different viewpoints are important as they propose various ways in which to prevent stress within the work environment (Tyson et al, 2002:454).

It is also considered reasonable to believe that individuals in the workplace are fit to cope with the pressure of normal day-to-day work demands. When the individual, however, perceives the demand as above and beyond his/her ability to cope, this particular stressor will be perceived as stressful. Stressors within the workplace can be many and varied, and can occur as a result of one or a combination of stressors. Most stressors can be grouped into one of three areas according to the Department of Consumer and Employment Protection (DCEP, 2001:7):

- stress caused by performing the job;
- stress occurring as a result of work relationships and finally; or
- stress resulting from the working conditions to which individuals are subjected.

2.6.2.1 Stress caused by performing the job

The stressors found within the work environment as a result of an individual performing the job delegated or entrusted to him/her, are recognised and defined by numerous factors. The design of a task is believed to include factors such as a heavy workload, or too much to do with too little time in which to complete the task(s); infrequent rest breaks; long and irregular working hours; hectic, routine or even boring and repetitive tasks, or too little to do with no inherent meaning. Under-utilization of an individual's skills; lack of autonomy due to deficient freedom in conjunction with no or little sense of control are all seen as part of the stressor within the task design of the job at hand.

The list of stressors wedged into the performance of the job, however, goes on: conflicting or uncertain job expectations, too much responsibility, or too many 'hats to wear' are aspects of work roles affecting the individual. Job insecurity or sub-standard performance resulting in disciplinary action, lack of opportunity to grow, reclassification,

transfer or any rapid change leave, remuneration etc., or a workers' expectations of any of these, add up to equal the career concerns an individual encounters while performing the job.

2.6.2.2 Interpersonal relationships

Stress occurring as a result of work relationships is governed by a poor social environment, which in turn is recognised by a lack of support or help from colleagues or supervisors, poor communication or deficient consultation between managers and employees or bullying and harassment. Even a negative culture based upon blame and denial of a problem, misguided jokes or initiation ceremonies contribute to the disharmony in work relationships. Management style is also grouped amongst these characteristics. Lack of participation by employees in decision-making, poor communication within the organisation and lack of family-friendly policies all form part of the management style influencing work relationships.

2.6.2.3 Working conditions

The third area mentioned is that of stress resulting from the working conditions to which individuals are subjected. The conditions found in these environments can be unpleasant or may threaten the physical well-being of employees. Conditions such as poor physical working conditions, over crowding, noise, lack of proper ventilation, air pollution, reduced lighting, poor ergonomics and inflexible or unpredictable hours have been recorded as contributory factors. Individuals in contact with human suffering and people's reactions to it, or even single incidents of armed robbery or workplace fatality can be included as factors affecting the workplace environment. Organisational changes, or the threat thereof, have also been documented as stressors that employees have to contend with.

All areas and factors, as mentioned above, relate to the causes of stress, might it be from within or outside of the work environment. These causes affect all individuals, to a larger or lesser extent.

2.7 RESPONSE

Individuals' reaction or response to stress will vary according to a number of factors. The nature of the stressor or demand, as well as the direct or indirect extent of individual involvement are some of the considerations to be reckoned with. However, it must be noted that what may be seen as a challenge by one individual, may be perceived as an impossible task or a boring and repetitious task to another (DCEP, 2001:8). Individual differences, the nature of coping skills and the assessment as well as the management of stress are all factors influencing the response an individual exhibits following an encounter with a stressor.

Two categories and three types of responses can be highlighted when the reaction to stress is up for discussion. Firstly, two types of intrinsic stress responses have been documented: the short-term fight-or-flight response and the long-term 'General Adaptation Syndrome'. These two responses are important for a better understanding of stress and stress management. The fight-or-flight response is considered a basic survival instinct, while the General Adaptation Syndrome is a long-term effect of exposure to stress. A third mechanism appears to be a result of the way an individual perceives and understands a stressor.

An important point should, however, be kept in mind: these three responses, although discussed separately, can be incorporated into a single stress response.

2.7.1 FIGHT-OR-FLIGHT RESPONSE

Walter Cannon theorized the existence of this response during the earlier stages of stress research in 1932. His work documented the release of hormones in an animal subjected to shock or a perceived threat (Taylor, 1999:12).

This same response applied to humans throughout the ages; in the Stone Age humans. Had to run for their lives or be prepared to be eaten alive – they had to flee or fight. In the current day and age, this response is still activated, although the stressors are no longer as visible as a predator on the hunt. The demands of everyday life within and

outside of the work environment pose a certain danger from which individuals can either flee or remain to fight. In modern times, the stressors faced by individuals are more cognitive and subjective in nature. Something as simple as an unexpected encounter can elicit the fight-or-flight response. People may also experience this response when frustrated or interrupted, or posed with an unfamiliar or challenging situation.

The adrenaline released during this response has a profound physiological effect, helping individuals to 'run faster and fight harder'. The heart rate is increased; blood pressure heightened and more oxygen and blood sugar are delivered to the essential muscles, all in an effort to increase the physical strength of an individual. Sweating increases in an attempt to cool the muscles, ensuring efficiency. Blood is diverted away from the skin towards to core of the body, reducing blood loss in the event of injury. The salivation response diminishes, the forehead tenses, eyes are strained and the jaw and teeth are clenched Breathing becomes shallow and fast, while the stomach registers a butterfly sensation as the digestive system is suspended, the bladder relaxes and white blood cells increase. The release of adrenaline also causes the individual's attention to be focused on the threat while excluding everything else. All these changes are a direct result of the hormones excreted and work together to enhance the individual's ability to survive a life-threatening event.

This response does, however, have a negative component: an individual's ability to work effectively with other people is reduced. During this mobilisation for survival, the individual's general performance might be influenced negatively, resulting in feelings of excitement, anxiety, and irritability. Trembling and the effects of a pounding heart influence precise and controlled skills. The intensity and focus on survival interferes with the individual's ability to make fine judgements based on drawing information from various sources. The individual tends to be more accident-prone and less able to make informed decisions.

This hormonal fight-or-flight response is a normal part of everyday life, resulting from everyday stresses, often with an intensity that is so low that it passes unnoticed.

Currently, there are very few situations within the working environment where this response is considered as useful. Most situations benefit from a calm, rational, controlled and socially sensitive approach.

2.7.2 GENERAL ADAPTATION SYNDROME

Hans Seyle, however, took a different approach to that of Cannon. He observed that various illnesses and injuries to the body appeared to cause similar symptoms in patients. He identified a general response known as the General Adaptation Syndrome. According to this response, the body reacts to a major stimulus. While the fight-or-flight response is more focussed on the short term, this second response occurs as a result of long-term exposure to stress.

Seyle's animal studies revealed three phases of reaction after laboratory animals were subjected to extreme stressors. The initial phase is that of an alarm response. Thereafter a resistance phase sets in, characterised by the increased resistance presented by the animal as a way of adapting to and/or coping with the stimulus. It was found that the duration of this phase depends on the amount of time that the animal is able to sustain this heightened state. Ultimately, however, exhaustion sets in, in the animal enters the exhaustion phase and this leads to the decline of resistance.

Seyle also referenced research conducted during World War II. The target group, bomber pilots, completed a number of successful tactical operations over enemy territory. Subsequent to a number of flights, fatigue set in and neurotic manifestations presented. It is clear that the findings of the animal studies correlated positively with that of human reaction. Exhaustion within humans is observed as burnout, which sets in after an individual has been subjected to long-term stress.

2.7.3 MENTAL RESPONSE

Within a normal work setting, most of the stressors experienced by individuals are subtle and occur without being perceived as a threat. Examples of these stressors are discussed

in the section on work-related stressors. On its own, each of these stressors will not harm an individual unless he/she experiences the stressor as stressful.

As the individual becomes stressed, two important judgement calls are made: he/she must perceive the stressor as threatening, and doubt of personal capabilities and available resources must be acknowledged. The severity of stress experienced is then governed by the extent of the expected damage as perceived by the individual, as well as the realisation of sufficient or insufficient resources. This sense of threat is also experienced on physical level as the hormonal fight-or-flight response is triggered, along with all its negative consequences.

2.7.4 INTEGRATED STRESS RESPONSE

To recap: the fight-or-flight response, General Adaptation Syndrome and mental response have been discussed briefly as separate mechanisms. However, these three responses can be grouped together to form a single response: the key Seyle's Alarm Phase of the General Adaptation Syndrome. This phase is similar to that of Walter Cannon's fight-or-flight response. In perspective, mental stress triggers the fight-or-flight response. If this level of stress is sustained over a long period of time, the end result will most likely be exhaustion (physical, mental or emotional), possibly depression and eventually burnout, with the latter considered as the most severe consequence of long-term stress.

2.8 THE CONSEQUENCES OF STRESS

In reality, stress is the driving force that keeps individuals alert and helps them to achieve higher levels of performance. If individuals are not exposed to the driving force, they often lack positive tension or commitment and boredom, sluggishness and even lethargy may result. It is therefore important to strike a balance between insufficient and excessive stress. This balance is, however, considered to be almost impossible. It is important to note that stress may have negative and positive consequences – depending on the intensity of the stressor and the individual's perceptions.

Short-lived or infrequent episodes of stress pose minimal risk to an individual. However, should the stressful situation not be resolved, the body is kept in a constant state of activation, as discussed under the response section. This state increases the rate of wear-and-tear to biological systems. Ultimately, as stated previously, fatigue or damage to the body results, and the ability of the body to repair and defend is impaired. The outcome is invariably an increased risk of injury or illnesses to the individual. Therefore, it is not surprising to know that the main effect of stress weights the heaviest on the individual.

Numerous research studies have been conducted over the course of the past 20 years, expounding on the adverse relationship between work-related stress and the general health and wellbeing of individuals (Ahasan, Mohiuddin, Vayrynen, Ironkannas & Quddus, 1999:386, Danna & Griffin, 1999: 380). Mood and sleep disturbances, stomach ailments and headaches as well as disrupted relationships with family, friends and colleagues are examples of stress-related problems that can develop as a result of excessive stress. Fortunately, the early signs of work-related stress are easy recognisable. Other signs of work-related stress also include, but are not limited to, poor concentration, short temper, job dissatisfaction, backache, migraines, increase in unaccommodating behaviour, weight fluctuations, dizziness, allergies and skin conditions. Late onset signs are, however, easily missed. Chronic illnesses are more difficult to diagnose as it takes a considerable amount of time to develop but can also be attributed to factors other than stress.

Nonetheless, evidence is accumulating at a fast pace to suggest that stress plays a crucial role in several types of chronic health problems. Many studies on the nature of stress suggest that psychologically demanding work, which allows individuals little or no control over the processes of the task at hand, increases the risk of cardiovascular disease. Musculoskeletal disorders also form part of this equation. The NIOSH (2002:4) reported a vast increase in the incidence of back and upper extremity musculoskeletal disorders. Further evidence reports that differences in the incidence of mental health problems, e.g. depression and burnout, occurring in various occupations are due partially to variations in

work-related stress levels. More research on workplace injuries is needed, as a growing concern exists that stressful working conditions interfere with safe work practices and set the stage for injuries sustained in the work environment. Some studies suggest a relationship between stressful working conditions and, inter alia, cancer, ulcers and even suicides (Landsbergis, 2003:62). Impaired immune function has also been mentioned as resulting from workplace stress. A recent press release stated that premature aging of an individual's immune system as well as shrunken brain neurons could be a direct result of stress (McEwen, 2006:1). More research, though, is required before a firm conclusion can be drawn.

Work related stress can also effect an organisation negatively. Other than the noted 600 million working days lost every year (European Agency for Safety and Health at Work, 2002:10), an estimated third of sick leave taken by employees has been coupled to stress, with stress-related illnesses costing European organisations an estimated £7 billion each year (Pearce, 2001:8). High staff turnover, reduced work performance, poor timekeeping and customer complaints are all considered to be a result of stress effecting the organisation directly.

The Health and Safety Executive (HSE, online: 2001) reported that increased absenteeism due to work-related stress could also have a domino effect. This effect starts with a single individual taking sick leave. The workload of this individual is then shared amongst the remaining staff members. Some of the employees will experience an inability to cope with the added workload, stress and fatigue will accumulate, hereafter their health will be detrimentally affected, leading to even greater absenteeism (HSE, online: 2001).

A reduction in staff morale, poor staff performance and staff seeking alternative employment are part of the effects that organisations with high occupational stress have to deal with. Eventually, added expenses are incurred due to the cost of the recruitment and training of new staff (Pearce, 2001:8).

2.9 COPING AND INDIVIDUAL DIFFERENCES

In everyday life, coping relates to a positive aspect as it implies success. When individuals convey a message of coping, it is not interpreted as a negative response. However, for the purpose of stress research, coping is seen in a different light. Definitions of coping in this context are all independent of outcome. It is therefore of great value to incorporate the terms 'cope' or 'coping' into interviews or even questionnaires if the individuals are not fully aware of the context in which the question is posed. A definition of this complex concept has initially been put forward as the cognitions and behaviours adopted by the individual, following the recognition of a stressful transaction, that are in some way designed to deal with that transaction (Cox et al, 2000:46).

Coping can also be characterised by three main features. These features are:

- It is a process: characterised by what the individual actually thinks and does in a stressful encounter.
- Context-dependent: it is influenced by the particular encounter, as well as the nature of available resources.
- Independent of outcome: regardless of whether the result or consequences are considered to be successful, coping is seen as an independent entity.

Progressive research has stated three major functions of coping strategies. These three functions can all be performed to some combined extent. They are:

- Problem solving: directly confronting or dealing with the source of stress.
- Reappraisal: rethinking the meaning of the transaction.
- Avoidance: avoiding or being distracted from the problem.
- Emotional: dealing with the emotional response to the stressor

A more recent and detailed definition states that coping is considered to be a cognition and behaviour, which, following a stressful transaction and defined independently of outcome, consists of the primary function to consciously decide how to deal with the emotions caused by the transaction and subsequently developing a sense of individual

control. This result is achieved by a combination of cognitive and behavioural strategies, which in turn performs a mixture of functions: problem solving, reappraisal or avoidance. Any particular option or strategy may perform any one or a number of these functions in the process of dealing with one stressful encounter.

It is important to note that no one function is considered more or less adaptive than another. Also, the individual fitting the most applicable strategy to the stressful encounter engineers a successful outcome. Individual differences are therefore implicit in the repertoire of coping options available to the person, in the individual's decision on combining options into strategies, in the functions that these strategies are designed to accomplish, and in the way the coping response is moulded to particular individual-environmental transactions (Goldberger & Brenznitz, 1993:19).

Individual differences may exist in relation to an individual's perception of the demand set by the job as well as the associated pressures. As these perceptions differ from individual to individual, previous research has found that level of intelligence, experience or background, knowledge or degree of education or a poor concept of their ability to cope can account for this finding. Furthermore, individuals may also differ with regard to the amount of control they are able to exercise over a particular situation or stressor, not only as a function of the situation, but also as a function of their beliefs or motivation regarding control. Finally, individuals may also vary in their need for support and encouragement from managers, supervisors and colleagues, as well as the skills that they have for eliciting such support and their perceptions of the support given (Nigel, 1998:85).

The stress outcome affiliation is moderated by individual differences, not only in secondary appraisal, related decision-making and in coping, but also in emotional and physiological response predispositions, latencies and patterns.

2.10 ASSESSMENT OF STRESS

With this information taken into consideration, the focus of the discussion now briefly turns to the assessment of stress.

Initially one might ask how the risks arising from stress can be assessed. Although this assessment has been attempted to a certain extent, objective measurements of the exact level of stress within the workplace has been generally regarded as difficult. If a simple test could measure the severity of the stress an individual is subjected to, the capability of that individual to assess their ability to work safely would be possible. Despite the difficulties encountered in measuring stress, both employers and employees make judgements on a regular basis with regard to the levels of stress and the nature of associated risks. It is, however, of the utmost importance to realise that objective testing does not remove the need to do a risk assessment, nor does it mean that the assessment is invalid.

The employer, main contractor, self-employed individual or person with control over or access to a workplace setting is charged with the responsibility of risk assessment. In brief, the risk assessment involves the identification of pressures at work and individuals that might be adversely affected, deciding if sufficient pro-active measures are in place, implementing actions to prevent stressors from causing unacceptable levels of stress and finally, reviewing the success of the control measures.

Early intervention is of utmost importance when stress is identified. Risk assessment should therefore determine the likelihood of stress resulting in ill health, which will prompt actions to deal with those pressures. It should also be kept in mind that the risks arising from stress may vary in intensity depending on the task to which the individual is subjected. Some tasks require a higher level of concentration, coordination or strength in order to carry it out safely. As a result, the level of pressure that can and should be tolerated will vary between industries and occupations.

2.11 MANAGEMENT OF WORK-RELATED STRESS

Stress is an inevitable fact of life which can not always be prevented. Therefore, the ability of individuals to cope with difficult work situations, various other related stressors and subsequent stress needs to be the main focus of all efforts. Most stress management programs teach the individual to recognise the nature and sources of stress, the effects of stress on health and the personal skills required to reduce stress. Examples of tools are time management or relaxation exercises.

Stress management may decrease the amount of stress experienced at a rapid rate along with the amount of symptoms experienced by the individual, such as anxiety or sleep disturbances. Curtain Some tools are considered to be inexpensive and relatively easy to implement. However, stress management programs have two major disadvantages. The beneficial effect on stress is often short-lived, as the root cause of the stress is often ignored, as the focus is mainly placed on the individual and not the environment. A three-pronged approach to stress management currently being utilized include practical, unwinding and techniques of thought. The practical or action-orientated approach and the acceptance-orientated approaches are necessary, but unfortunately not sufficient standalone techniques for stress management. The emotionally orientated response however, is essential and regarded as more for effective in coping with stress.

2.12 SUMMARY

It was the aim of this chapter to discuss and break down into various components the theoretical construct of work-related stress. The impact on a specific profession, to be exact nursing, will be explored in Chapter 3.

In summary, it can be stated that work-related stress is the natural reaction of individuals when being subjected to intense pressure at work over a period of time (NIOSH, 2002:2). Some individuals are motivated by the challenges and difficulties that normally occur within the work environment and react by improving their performance. Rising to the challenges and overcoming the difficulties causes feelings of satisfaction and relaxation. However, when the pressure of work demands increases excessively over a long period of

time, individuals may perceive a threat to their well-being or interests and subsequently experience unpleasant emotions such as fear, anger, anxiety, etc (DCEP, 2001:8).

The basis of the response arises from instinctive fight-or-flight reactions to danger, which has evolved from early times when individuals lived in more natural threatening environments. The stress response is designed to be utilized in short bursts and switched off directly thereafter. In the case of long-term activation of the stress response, or shorter time lapses between situations, the body will not have enough time to repair itself, resulting in fatigue and damage. Thereafter, the release of excessive stress hormones causes the deterioration of the body, affecting both physical and mental health and ultimately quality of life. It should also be stated clearly that stress itself is not considered as an illness or injury to the body but it can lead to mental and physical ill health in an individual (WorkCover, 2000:4).

It of the utmost importance to combat the effects of stress by implementing proper assessment and management strategies, not only to improve the life of an individual, but also to decrease or even eliminate the negative effects that work-related stress have on an organisation (ILO; 2000:1).

A brief synopsis of this section can be stated as the final plan of action or the map of this research study. Not only was the problem statement described, but a brief overview of the research methodology and a systematic outline of the research plan were revealed, thus constituting Chapter 1.

Chapter 2 dealt with the cognitive mapping of concepts or keywords. It is the hope of the researcher that a setting has been created, with the keywords mentioned in Chapter 2, not only as foundation for the following chapters, but also in an endeavour to facilitate a deeper understanding and a clear exposition of the researchers' perspective based on the literature obtained.

CHAPTER 3

LITERATURE REVIEW

3.1 INTRODUCTION

Currently, stress is recognized not only as a threat to our quality of life, but also to our physical and psychological well-being (Cox et al, 2000:4). This perception of stress as a real threat to employees' well-being is widespread in most sectors of the economy (World Health Organisation, 2001:3). Not only has this belief been portrayed by the media, but trade unions as well as professional and scientific associations are also increasingly concerned with the extent and impact of work-related stress on workers (Cox et al, 2000:9). Therefore, it is of cardinal importance that we recognize the specific characteristics, causes and consequences of stress to enable employees to successfully develop techniques to manage stress or to prevent it (Levi, 2000:3). It is believed that this study will contribute information to increase awareness of the extent of work-related stress and the causes thereof, specifically in the field of nursing.

This literature study will address the basic principles of work-related stress according to the perspective of the Transactional Model of Stress of Cox and Mackay (Cox, 1978:19), as briefly mentioned in Chapter 1 and discussed under the theoretical foundation to stress in Chapter 2. This will contribute to a better understanding of the nature or characteristics of work-related stress.

The scientific approach to the conceptualisation of work-related stress as well as various other concepts linked to this research study, have been discussed in the previous chapter and references to the topics will be in light thereof.

3.2 DEMOGRAPHIC INFORMATION

To start with, the focus is on the socio-demographic data obtained by the initial section of the questionnaire (see Appendix H & I). It is of importance to note that these types of sections in research provide a milieu for the perceptive differences amongst respondents, for which some can be significant in nature. Within the nursing profession itself, no other demographic is more significant than that of gender.

3.2.1 GENDER

Gender is considered a very important moderator of stress, according to literature. It is not surprising to know that only 6,8% (Geyer, 2004:41) of the nursing population within South Africa, is represented by men. The gender division over the three nursing categories, i.e. registered nurses, staff nurses and nursing auxiliaries are illustrated in Table 3.1 as recorded in December 2003 (SANC, 2004).

Table 3.1 Gender distribution of nurses on the SANC register and rolls

GENDER DISTRIBUTION OF NURSES ON THE SANC REGISTER AND ROLLS (DECEMBER 2003)

GENDER	PROFESSIONAL NURSES	STAFF NURSES	NURSING AUXILIARIES	TOTAL
FEMALE	91 413	31 442	43 519	166 374
MALE	5 302	2 133	3 912	11 347
TOTAL	96 715	33 575	47 431	177 721

Working women amount to a larger percentage within the labour market than ever before. Since 1994, the number of women in the South African workforce has increased to an estimate of 44% in 2004 (Maud, 2004:53). Although this is of significance to female equality, one cannot but think of the implications involved in such a revolution. In the past, traditional gender roles meant that women had to behave according to a certain expected role within the society, while men conformed to another (author unknown, online: 2006). These roles were, however not to withstand the test of time. Cultural, economic and political changes within South Africa resulted in an unemployment rate of almost 40% (Khomanani, 2004:6), with the average number of working men dropping considerably in recent years. Consequently, many men were unable to provide for their families and this necessitated more women to move into the labour market. Female rights, better education levels and falling fertility rates are but some of the reasons presented for the increased involvement of women in paid labour (Harrisberg, 2004:53).

This increased involvement of women in the labour market unfortunately also has negative effects on South African women. Lately it has been found that women are at higher risk of stress and burnout compared to their male counterparts. As a result, research also found that approximately 90% of all female GP visits were believed to be associated with stress related illnesses (Maud, 2004:53).

With all factors taken into consideration, and added to the fact that men were not at such risk of stress, burnout and stress-related illnesses before 1994, one can only but believe that the home/work interface is to blame. It is widely acknowledged that the spill-over effect of increased pressures at work contribute significantly to the increased stress levels of both males and females. This home/work interface can also be seen as part of the causes of stress outside of the work environment (European Agency for Safety and Health at Work, 2002:5). Further elaboration on this aspect will follow in a later section.

Furthermore, the barriers of financial and career advancement, based on sexual discrimination, have also been found to increase psychological and physical symptoms such as depression and increased high blood pressure (Maud, 2004:53). Added hereto is workplace violence or sexual harassment. Although men are also affected, women are the ones most likely to be victimised as they are seen as a soft target (Geyer, 2004:41). Anxiety, fearfulness, feelings of guilt and shame, as well as physical symptoms such as headaches and sleep disorders can be added to the symptoms previous mentioned. Numerous studies have shown that sexual harassment is a particular harmful stressor for women and has significant impact on psychological distress and absenteeism beyond the aspects of expected job stressors (Harrisberg, 2004:53).

3.2.2 RACE

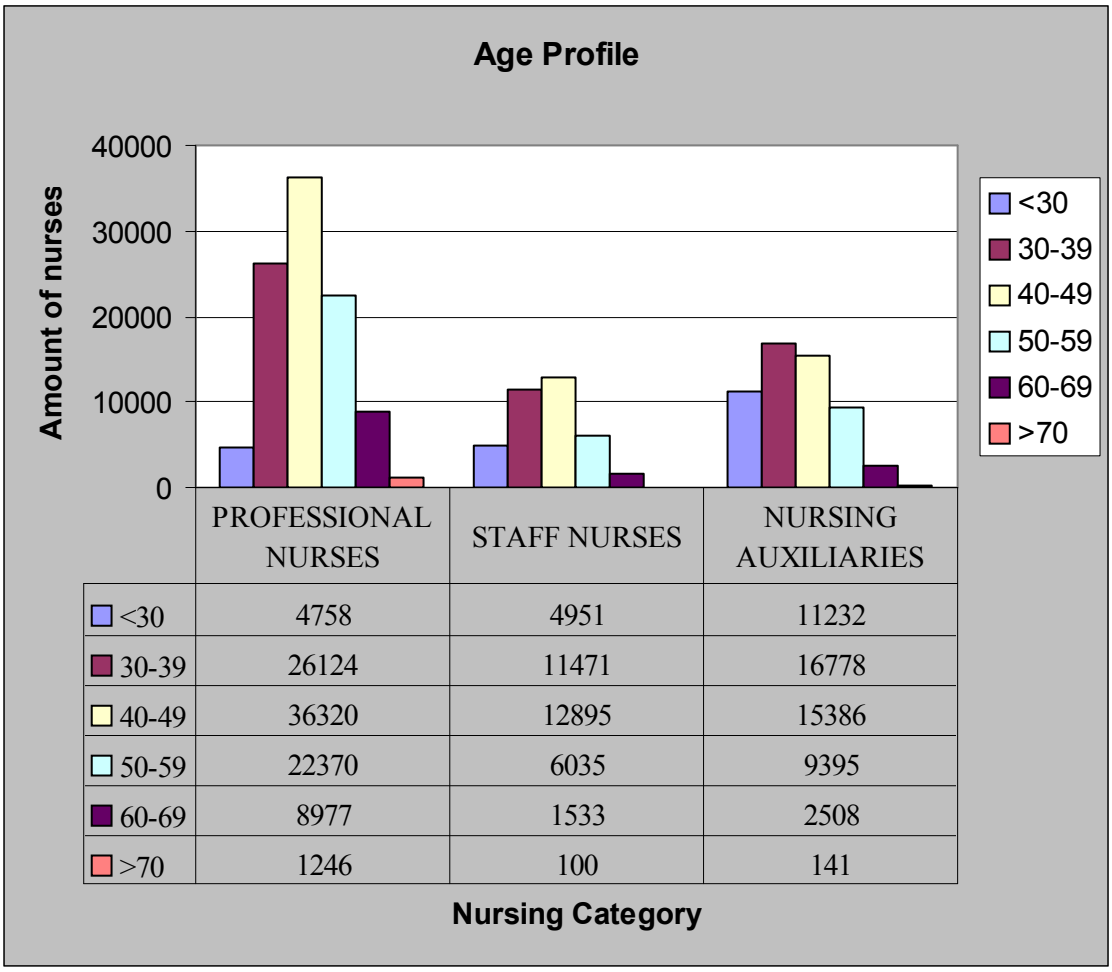
It has been made know that gender distribution within South Africa has a historical distortion of racial disproportion (Mafalo, 2005/2006:14). In effect, if this ratio of distribution is not followed through as stipulated by legislation, racial preference can influence employment, thus resulting in feelings of inadequacy, anger, hatred, all affecting an individual's perceived levels of stress. Apart from gender as moderating

variable, racial differences might also contribute to increased vulnerability to stress due to differences in exposure to stressors such as discrimination, poverty, lack of resources and poor education. Although the health system was predominately white in the past, it remained female dominated (Mafalo, 2005/2006:15). Nursing, as we know it today, however, is better balanced with governmental legislation compared to a number of years ago.

From another perspective, racial issues can also cause stress amongst nurses in terms of cultural perceptions. For instance, certain black ethnicities believe that being a nurse implies a high social status and should be regarded with respect and treated with honour. Because of this expected increased status is an increased demand for high performance, thus resulting in an increase of pressure, fear to disappoint, potential feelings of inadequacy and thus perceived stress (Geyer, 2004:36). In conjunction, lack of trust and doubt of success, is also thought to be a general belief amongst white nurses – a belief that leads them to think that black nursing leaders have not developed sufficiently over the past ten years, thus resulting in a inability to take care of nurses and ensuring that nursing are taken to greater heights (Mzolo, 2004:15). Although it seems that black nurses are dissatisfied with white nurses' apparent unwillingness to accept change, some research has shown that nurses of all colour remained united and focussed on their profession's interests. (Mzolo, 2004:16).

3.2.3 AGE

In South Africa, the nursing population is affected daily by resignations, early retirements and migration of nurses abroad (SANC, 2006:42). This significantly impacts on the age profile of the nursing population. The moderating impact of age should therefore also be considered when the stress experience of nursing professionals is investigated. The SANC recently revealed the age profile of the current nursing population at the Nursing Strategy Workshop during March 2006 in Durban. They sketched an outlook of the age factor in collaboration with the nursing shortage. Results are illustrated in Figure 3.1 (SANC, 2006:42).



	PROFESSIONAL NURSES	STAFF NURSES	NURSING AUXILIARIES
<30	4758	4951	11232
30-39	26124	11471	16778
40-49	36320	12895	15386
50-59	22370	6035	9395
60-69	8977	1533	2508
>70	1246	100	141

Figure 3.1 Age profile of the nursing population

If it is assumed that retirement is reached at age 60, it would be a safe assumption to make that 22.5% of professional nurses will retire within the next 10 years. With 10.3% of professional nurses over the age of 60, a percentage of 33% was added to include those nurses that might probably not be available to practice within the next 10 years. Considering this along with the fact that the government cut back on the number of nursing student posts and closed a number of nursing colleges countrywide, an obvious gap in the growth of this profession is caused, which might lead to increased workload and pressure for the remaining nursing staff (SANC, 2006:42).

In parallel, staff nurses' show matching results. Furthermore, excluding the nursing auxiliary category, nurses younger than 30 years of age are limited in number, which is indicative of the ever-shrinking nursing profession (SANC, 2006:43).

3.2.4 EDUCATION

This topic has not been extensively documented within South Africa. Further education or added qualifications are believed to have an impact on the levels of stress experienced by nurses. An increased level of knowledge has been coupled in the past with increased awareness of one's needs and an early detection of demands, hazards and danger signs that may protect the nurse against work stress (Motseki, 2003:35). In contrast herewith, research has also found women, in particular, under the perception that furthering their education may not have any impact on their career development or salary packages (Independent Online, 2005).

3.2.5 WORK EXPERIENCE

No research on the relationship between work experience and the levels of work-related stress within the nursing environment could be found. Although it has been stated in the past that increased knowledge correlates with increased experience, increased responsibility and out-of-scope conduct have also been mentioned. This implies that the amount of work experience can result in either an increased or a decreased level stress, or be non-significant at all.

Work experience can also have a very different connotation if an experienced nurse was to return to the public sector. It has been established that an experienced nurse would often be required to start at a salary equivalent to that of a new graduate. This implies that all the work experience, although of tremendous advantage to the ward/unit, is disregarded by Human Resources Departments (DENOSA, 2003:3). Are nurses being penalised for returning to the public sector? A professional nurse within South Africa commented on this turn of events by asking if authorities would appoint a medical consultant with numerous years' experience and expect him to earn a houseman's salary

(Baren, 2003:4). One can only but speculate what the direct effect of this will be on nurses' levels of stress.

3.2.6 COPING

Coping, though an individual element, has been incorporated into the socio-demographic section of the questionnaire used in this research study. A general understanding of the measures implemented by nurses to combat stress can, not only provide a possible indication for further research, but also shed light on the levels of stress in correlation with their problem-solving skills. As this topic has not been investigated in-depth within this research study, it will be referred to briefly. The coping measures used by the current research group will be depicted in the results and findings discussed in Chapter 5.

Consistent with other research, the general perception is that nurses often make use of coping strategies such as talking with colleagues about aspects of their work that causes stress. Venting to, giving and receiving social support seem to be the most frequently used coping strategy (Callaghan, Tak-Ying & Wyatt, 2000:1519). This research also mentioned that certain coping strategies used by nurses could be harmful to their health. Examples are smoking, using drugs or other medicinal substances in excess and consuming alcohol. Other coping strategies used by nurses to combat their stress and dissatisfaction includes, but is not limited to: meaningful problem solving, accepting responsibility, positive thoughts and avoidance (Sullivan, 1993:593). Studies that are more recent revealed that nurses tend to indulge in food in order to cope with their stress (Hope, Kelleher & O'Connor, 1998:441)

3.3 LEVELS OF STRESS

Occupational or work-related stress, as such, has a direct effect on all nursing members of the work force, might it be of long, short or intermediate duration, or a once off experience (Reisner, 2004:1). Simultaneously, some nurses have the ability to cope with stress successfully, while others fall short and endure extensive periods characterised by an impaired comfort level and lack of optimal psychological and physiological health (Cox, 1978:147).

It is therefore not surprising to know that stress has been assigned as a negative psychological state, governed by a psychological nature with associated outcomes including, but not limited to, the psychological domain (Cox et al, 2000:41). This state involves aspects of both cognition and emotion. In context, the state is treated as the internal representation of particular and subsequent problematic transactions between the individual and his or her environment with the Interactional/Transactional Model of Cox and McKay kept in mind (Cox, 1990:125). It is this environment, within and outside of the work milieu, with its personal nature and related transactions that is given meaning by the evaluative process of appraisal (Holroyd & Lazarus, 1982:41).

Follow-up and more detailed research on the model at hand suggested a further subdivision of the appraisal process resulting in primary and secondary components (Folkman & Lazarus, 1986:109). Summarised primary appraisal is controlled by an uninterrupted observation of the individual's transactions within his or her environment (Cox et al, 2000:41). The observation not only oversees the demands, abilities, competencies and support but also focuses on one question in particular: 'Do I have a problem?' (Cox et al, 2000:42). The realisation of such a problem can then result in unwanted feelings or subsequent general discomfort (Cox et al, 2000:41). On the other hand, secondary appraisal is reliant on the awareness of possible coping strategies available to deal with the problem. The question to be asked in this regard: 'What am I going to do about it?' (Cox et al, 2000:42).

A nurse is likely to experience stress due to causes outside or within the work environment, when the perceived demands are not in correlation with his or her knowledge, skills and needs. This is especially true when they have little or no control over the task at hand in conjunction with a lack of support for achieving their objectives or a weak support structure (Levi, 1992:76; Isikhan, Comez & Danis, 2004:4). However, if an individual were not equipped with the necessary skills or knowledge for the set demands at hand, a poor performance would be an inevitable result (Aspinwall & Taylor, 1997:420). If this is the case, and the individual does not realise or accept it as an

important factor, then the situation cannot be deemed as a stressful experience (Tyson et al, 2002:454).

The opposite is true of a stressful scenario characterised by a realisation of failure to cope with the set demands associated with concern for failing (Cox et al, 2000:42). The results of such a scenario can then possibly cause subsequent impairment of performance over and above that caused by the lack of ability (Cox et al, 2000:42).

Whether the nurses within South Africa are equipped with the necessary skills or knowledge for the demands set to them, are yet to be determined. For now, however, the levels of stress as reported by the selected nurses are the outcome in question. In this research study, the subjective level of stress would be measured according to predetermined limits as illustrated in Table 3.2 (Van Zyl et al, 1994:24).

Table 3.2 Three point scale of Level of Stress (WLQ)

SCALE	LEVELS OF STRESS
Very high	98-200
High	80-97
Normal	40-79

3.4 CAUSES OUTSIDE THE WORK ENVIRONMENT

While it is nonsensical to determine the exact importance of the correlation between non-work-related and work-related causes of stress, it would be of more value to portray the interaction and spillover effect from the one milieu to the other; as both are not independent in their effects. Although interaction of this nature is present it is, however, not clear what the exact impact of non-work-related causes of stress is on the individual's overall level of stress, compared to the impact of work-related stressors (Cox et al, 2000:25).

The initial impact of the spill-over effect after the occurrence of an acute stressful life experience outside of the work environment, like the death of a family member, illness or strife, will often be obvious, firstly to the family, then friends after which co-workers or colleagues will also become aware of the stress experienced (Quick, Murphy, Hurrell & Orman, 1992:56). However, when the spillover effect is subtler and occurs over a longer period, the apparent effect thereof is not as visible, but should not be underestimated. Similarly, while the chronic experience of work stress may exert damaging effects on family relationships, it may sometimes slip through undetected (Quick, et al, 1992:56).

When this issue is incorporated in the nursing field, previous research indicates that 56%, of nurses reported that a vast amount of interference was present between their work and family or home lives. One particular stressor was that of irregular hours. This interference affected family routines and events, child rearing and household responsibilities, made nurses moody at home and conflicted with leisure and social life (Cox, et al, 2000:25; Cox et al, 2000:75).

Gardell (1973:16; Cox et al, 2000:75) described the 'Wasted leisure time syndrome' as employees not finding time away from work to do more than fidget at home, skim through newspapers, watch television, eat and sleep. Not only has this syndrome been linked to stress and physical exertion but also to employees' psychological and behavioural adaptation (Cox et al, 2000:75). A strong relation exists between the use of leisure time and the manner in which managers; in particular, treat their spouses (Geurts & Peeters, 1999:1136).

Problems relating to the interface between work and the family have been stated to involve either resolving conflict of demands on time and commitment, or revolve around issues of support (Hingley & Cooper, 1986:74). Summarised, this demand can result in a cascade effect: if a lack of support is experienced at home, dual career problems may evolve along with subsequent increased levels of stress (European Agency for Safety and Health at Work, 2002:5).

Change has also been recognised as a cause of stress outside of the work-environment. Be it change within the home context, rapidly changing technology or economical changes, all forms of change has been experienced or are often perceived as a psychosocial hazard (Van Zyl, 1998:22). However, it is not clear from previous research whether change per se is stressful or hazardous, or whether it is possibly stressful nature is due to the uncertainty, fear and lack of control that it often represents (Cox et al, 2000:75).

3.5 WORK-RELATED CAUSES

An overview of causes leading to stress within the work environment includes, and is limited for the purpose of this study, to: organisational functioning, task characteristics, physical work environment, career matters, social matters and finally remuneration, fringe benefits and personnel policies. These factors are focussed on due to the structure and inclusion of specific items within the selected questionnaire, as discussed in Chapter 2.

3.5.1 ORGANIZATIONAL FUNCTIONING

Within an organisation that employs nurses, numerous factors have been documented to influence their perception of work-related stress (Cox & Leiter, 1992:220). A number of these factors will be discussed briefly in respect of nurses.

Nurses may perceive an organisational structure as a threat, not only to individual freedom, but also to autonomy and identity (Hingley et al, 1986:74). Previous research on organisations revealed that individual perceptions and descriptions of the governing body revolved around three distinct organisational functions and cultural aspects: as a task, developmental and problem-solving environment (Cox et al, 1992:220). Evidence suggests that if these aspects within an organization are of poor quality, they may contribute to increased levels of stress (HSE, online: 2001). In contrast, an organization perceived as positive overall, would relate both to a decrease in perceived stress and also to fewer reports of ill-health (Cox & Kuk, 1991:12, Cox et al, 2000:69).

Organisational size, an ineffective or flat structure, awkward and illogical procedures, as well as role-related issues are all considered aspects that can be hazardous within an organisation (Kasl, 1992:9). A further important factor that should not be forgotten, is that most of an organisation's effects, functions and culture flow from the behaviour and management of supervisors and managers governing the organisation, (Cox et al, 2000:69). It is therefore not surprising to know that management behaviour and supervisory styles have a substantial impact on the emotional well-being of subordinates (Corey & Wolf, 1992:34). Although the latter has been stated as an organisational effect, it can also be considered largely as part of the more general concern of nurses' interpersonal relationships (Cox et al, 2000:69). This factor will be highlighted again.

Nurses can also perceive lack of decision latitude and control as a stressor. If the freedom to participate in decision-making is provided to an individual, and if they have control over certain aspects of his or her task plan as well as workload, it could contribute to increased levels of self-esteem and job satisfaction (Cox et al, 2000:72, Warr, 1992:192). These two factors are of fundamental value to the organisational structure (Cox & Rial-Gonzalez, 2002:4).

In contrast, lack of control or minimal freedom of independent decision-making has been frequently associated with the experience of stress, related anxiety, depression, apathy, exhaustion, low self-esteem and an increased incidence of cardiovascular symptoms (Terry & Jimmieson, 1999:97). However, with this said, the freedom of decision-making and control may be a two-way street as the demands implied by independent choices can create or be a source of stress on its own (Neufeld & Paterson, 1989:72).

3.5.2 TASK CHARACTERISTICS

Task characteristics can be regarded as psychosocial hazards which, not only relate to the content of work, but also to the subsequent possible stressful experience and potential harm to an individual's health and well-being (Cox et al, 2000:75).

Research states that poor mental health can be related to work overload or under-load, as well as a lack of control over pacing with subsequent high levels of time pressure (European Agency for Safety and Health at Work, 1998:5). Workload as such has been a leading cause of occupational stress amongst nurses (Pan American Health Organisation, 2006:22). Problems contributing to this problem are listed as, but not limited to, lack of control, lack of rest breaks, unrealistic targets, volume of work, unfair delegation of work and deadlines or even a slow work pace and staff shortages (Joyce, Shaw, Snowden, Catterall, Mann & Harkin, 2001:11). The latter have been related by authors to key indicators, like mortality rates, thus introducing the element of patient safety (Geyer, 2006:22).

A further distinction is made between quantitative and qualitative workload (French & Caplan, 1970:385, French, Rogers & Cobb, 1974:76). On the one hand, quantitative workload refers to the amount of work that has to be completed and, on the other, qualitative workload refers to the degree of difficulty of the work at hand (Cox et al, 2000:76). It is possible to have work characterised with a quantitative overload and qualitative under-load. Repetitive and monotonous work of short duration is an example and correlates strongly to a lack of both physical and psychological optimal health (Cox et al, 2000:77; Cox et al, 2002:5).

Qualitative under-load has often been associated with the experience of boredom, anxiety, depression, resentment and generally poor psychological health (Cox et al, 2000:76). A possible increased incidence of postural and musculo-skeletal problems, as well as upper limb disorders has also been reported (Chatterjee, 1992:132), as well as disorders of the digestive system and various changes in health-related behaviour such as smoking and consumption of alcoholic beverages (Joyce et al, 2001:6). Exposure to repetitive work of a very noisy and intense nature may also lead to the ‘Wasted leisure syndrome’ (Cox et al, 2000:76).

Responsibility for people, on the other hand, has been associated with a high qualitative work overload and is considered a potential source of stress compared to the

responsibility for objects (Cox et al, 2000:71). An increased incidence of smoking, elevated blood pressure and increased serum cholesterol levels, and subsequent increased risk of coronary heart disease have often been associated with increased responsibility (Leiter, 1991:552).

More than a decade of research emphasised the effect nursing shortages have on patient care. According to these studies, the presence of more nurses lowered mortality rates, shortened patients' duration of stay, improved the quality of care rendered, lower the cost of health care and were cause for fewer complaints logged (Zondagh, 2005:38). In South Africa alone, a shortage of 31 000 nurses (Seshoka, 2005:35) is experienced.

Staffing shortages is a major issue of concern, especially since it was brought to light that one out of every four unforeseen patient deaths or injuries, was a direct result of nursing error (Geyer, 2005:38). According to general perception, it can be believed that a lack of nursing personnel has resulted in thousands of patient deaths (Geyer, 2005:39). Medication errors, patient falls and hospital-acquired infections were amongst the reasons found (Geyer, 2005:38) to explain this theory. Further studies of the primary cause analysis showed that 1 609 adverse events or unexpected problems were the direct result of an understaffed rate of 24% (US JCAHO, 2005:39).

Added to this, nurses are faced with nursing tasks that holds potential physical harm for them. Although a potentially hazardous component of a task equals the characteristic of a task, the physical tasks will be discussed in the section on physical working conditions.

Harm can also be inflicted by means of long working hours. This concept is synonymous with the nursing profession and forms part of the characteristics of nurses' tasks. A work schedule is often seen as a source of stress by the individual as he or she seldom or ever has control over this aspect (Cox et al, 2002:5). Although this is the case, it remains important to remember that work scheduling forms a cardinal part of the job design and work organisation (Landy, Quick & Kasl, 1994:45). Two main concerns are portrayed in

previous research relating to the negative effects of work scheduling on the health of individuals: shift working and long working hours (Beehr, 1995:46).

Shift work per se has been reviewed in depth. Investigation revealed that shift workers had a 40% increased risk of developing cardiovascular disease. They also pinpointed the related risk factors leading to this increased incidence. Disrupted socio-temporal patterns, lack of desired social support, increased levels of stress, poor health-related behaviour such as smoking, an unbalanced diet, increased alcohol consumption and lack of exercise, as well as biochemical changes including undesired cholesterol and triglyceride levels are all factors mentioned in relation to shift work (Kobayashi, Furui, Akamatsu, Watanabe & Horibe, 1999:86).

Working days exceeding eight hours and a working week of more than 40 hours are considered as the base criteria for long working hours (European Foundation, 1996:17). Although this is the case, existing research largely focused on working hours exceeding 50 hours per week (European Agency for Safety and Health at work, 1998:4).

It is this lack that motivated the European Union to investigate and develop legislation for the member states of the European Community. Reports indicated a direct correlation between hours worked and health problems, in particular stress and backache (Cox et al, 2002:4). Furthermore, an increased feeling of fatigue is also evident due to 12-hour working days, especially if kept up for weeks (Rosa, Colligan & Lewis, 1989:4). It is not only fatigue that sets in, but a number of other potential hazardous effects as well (Spurgeon, Harrington & Cooper, 1997:370).

Twelve-hour shifts have been reported to take a toll on nurses' health. Research shows that working 12 or more hours per day can increase the risk of work illness or injury by 37.8%, while working 60 or more hours per week could increase the risk by 23% (Dembe, Erickson, Delbos & Banks, 2002:589). Yet another study reported that people whose occupations required long hours or frequent overtime were 61% more likely to become injured or sick.

A more in-depth study found that a working week of three to four days of 12-hour rotating shifts over a period of seven months, resulted in, not only a reduction in sleep but also a lack of subjective alertness and an increase in self-reported levels of stress (Cox et al, 2000:79). The opposite was found with a work schedule of eight hours per day for five to seven days per week (Rosa et al, 1989:6).

3.5.3 PHYSICAL WORK ENVIRONMENT

The physical work environment has been considered as a very important stressor related to higher levels of stress, subsequent emotional exhaustion and lack of optimal health (Duquette et al, 1994:341). Therefore, targeting particular individuals or groups with regard to work-related stress, will be of limited use without also addressing the general work environment, i.e. the physical factors (Kennedy et al, 1997:28).

Most of these factors or demands within the work environment can be measured objectively and is considered relatively reliable with a degree of validity and can therefore be monitored rather easily (Gobel, Springer, & Scheff, 1998:566). With specific regard to the nursing profession, literature also suggested that these factors, along with the associated constant changing work environment, could be denoted as a primary source of nursing stress (Hillhouse & Adler, 1997:1781).

This primary source of stress within hospitals can be rationalized by means of a number of reasons. In brief, nurses are confronted, on a daily basis, with direct demands on their senses, questionability of the equipment and facilities, and other harmful physical aspects in the work environment, patient and non-patient related, etc.

The demand on senses involves inadequate lighting, foul or dangerous odours, temperature fluctuations and noise. Various other environmental factors should also be considered, although of lesser significance to the nursing profession itself (Kennedy et al, 1997:28). Humidity, illumination and vibration are also amongst environmental factors (Cox et al, 2000:65). When incorporated in a study, environmental factors should be

assessed on perceived demand by the individuals observed and not via the measure of intensity as pointed out in literature (Cox & Ferguson, 1994:99). When measured, noise in particular should be seen as a physical as well as a psychological stimulus (Akerstedt & Landstroom, 1998:172).

Nursing professionals in intensive care units displayed a higher prevalence of the perceived demand of noise compared to other wards within a hospital setting (Topf & Dillan, 1994:341). Not only does the perceived demand of noise interfere with speech perception and communication (Jones, 1999:170), but also, when it is prolonged, may lead to an increase in stress, signs of irritability, tension, anxiousness, anger, feelings of helplessness and hopelessness and physical manifestations such as headaches, increased fatigue or poor health and even impaired performance efficiency – all eventually leading to or putting the individual at risk of burnout (Crickmore, 1987:21; Ahasan et al, 1999:386). Allergies, respiratory as well as gastrointestinal disorders and complaints associated with musculoskeletal and cardiovascular conditions are amongst the factors identified (Cohen, 1974:65, Eurostat, 2001:24). In adverse circumstances, though not as prevalent in the nursing environment, exposure to high or continuous levels of noise can, not only result in damaged hearing but, also lead to hearing loss for levels higher than or equal to 80dBA (Cox et al, 2000:65). Noise levels of high intensity can, however, result in impaired hearing much quicker than continuous, but less intense noise levels (Wallhagen, Strawbridge, Cohen & Kaplan, 1997:443).

It remains important to recognize noise as part of the so-called organisational stressors and should not be classified on its own as a single standing cause for intense levels of stress, as all demands interact (Arsenault & Dolon, 1983:340). It is also important to remember that noise, although the most focussed aspect of all physical environmental factors, does not govern the quality of working conditions as a whole (Joyce et al, 2001:16). As previously mentioned, poor working conditions do not only affect the individuals' physical health but also his/her experience of stress and psychological well-being (Warr, 1992:65).

Equipment as stressor within the work environment can also hinder the care nurses provide to patients. While causing frustration, inadequate equipment can be considered a possible cause of work-related stress. Availability, condition or quality and quantity of equipment are all factors affecting the nurse. The Minister of Health's encounter with the quality of equipment can be used as a practical example. The press reported that she had her blood pressure measured at a function. The subsequent high reading obtained was worrisome to the nursing bystanders, therefore a follow-up reading was deemed necessary. The second measurement with another machine was found to be within normal limits (Mzolo, 2005:46). According to Mzolo (2005:46), the issue with inadequate or non-existent equipment is endless. Nurses' ability to provide quality health care will be restricted until this concern is addressed.

From another perspective, equipment can also hold potential harm to nurses in a direct manner. Lifting heavy objects, even patients, have been reported to have detrimental effects on nurses' health, especially concerning their musculoskeletal systems (physiosa.org.za). Other potentially harmful equipment are X-Ray machines, which is responsible for 0.6% of diagnosed cancers (Buttner, 2005:51), and mercury in thermometers and sphygmomanometers. This causes mercury poisoning in healthcare workers, while also affecting the environment (Sekgothe, 2004:30).

An example and yet another physical environmental factor that has also been brought to light is the report of anxiety, by doctors and nursing personnel, in relation to the caring of patients possibly infected with the human immunodeficiency virus (Kegeles, Coates, Christopher & Lazarus, 1989:255, Cox et al, 1993:65). The reported anxiety is a direct result of a fear of becoming infected with the HI virus (Sookha, 2005:5). Ms Thami Skenjana (2004:1), Director of the Government AIDS Action Plan, concurred by stating that nurses, among all health professionals, have most contact with people infected by AIDS.

At present, South Africa is considered as one of the countries with the fastest growing HIV infection rates in the world, with an estimated 6.5 million of the population of 46.4

million people infected with HIV (Dorrington, Bradshaw & Budlender, 2002:137). In the progression of HIV to AIDS, hospitals are filling at an alarming rate with the sick and dying, adding to the nurses' workload with their vast amount of additional and special needs. The increased workload, in this context, is at times unsafe for both nurses and patients (Champ, 2006:28).

South African nurses are reporting increased levels of stress; increased rates of burnout and, as mentioned, increased fear of being exposed to HIV. In addition, nurses have been discriminated against because of their work with HIV/AIDS patients. Although they express empathy and feelings of self-fulfilment with regard to caring for these patients, many nurses are concerned about their families' anxieties surrounding their work with AIDS patients (Hayter, 1999:986).

Tuberculosis (TB) is yet another physical environmental factor that nurses are exposed to, especially in hospitals, and now more than ever before. Most research studies are conducted in industrialized countries and TB outbreaks in healthcare facilities raised a considerable amount of concern regarding nosocomial transmission. Most of the TB patients and some healthcare workers were also HIV–positive, with associated high rates of mortality (43% to 93%). Research in South Africa among healthcare professionals found 15 cases of TB amongst nurses, with only one case of nosocomial transmission documented (Wilkinson, 2004:38).

Poor working conditions can be exacerbated by, but is not limited to, temperature and humidity, vibration and illumination – all part of the lesser know physical environmental factors (Wallhagen et al, 1997:442). An important point to consider is that mid-range conditions can easily be accepted or adapted to without having any affect or negative influence on the individual's state (Joyce et al, 2001:16). However, the contrary is true when the extremes of these factors are present (Szabo, Maull & Pirie, 1983:1058).

Although all the demands under discussion can affect the individual per se, a definite interaction amongst the physical environmental factors is evident, as well as the

interaction with psychological demands (Melamed, Yekutieli, Froom, Kristal-Boneh & Ribak, 1999:18). The interaction between noise and a lack of sleep can be given as an example as it can interact in relation to the task performance observed (Broadbent, 1971:66). Further research also suggests that exposure to poor equipment and workstation design; in conjunction with poor task design and work organisation, can give rise to work-related upper limb disorders (Chatterjee, 1992:130).

3.5.4 CAREER MATTERS

Lack of expected career advancement and promotion has been classified as a source of stress amongst nurses, in particular in organisations that emphasises the relationship between career development and competence or worth (Cox et al, 2000:71). Points of focus have been highlighted in this regard: role ambiguity, role conflict, training or skills development, and obsolescence.

Role ambiguity is defined as a general confusion concerning the appropriate objectives, lack of clarity with regard to set expectations and a general uncertainty about the scope and responsibilities of the job (Cox et al, 2000:70). Largely, role ambiguity and role conflict is the leading cause of psychosocial hazard with regard to an individual's role within an organisation. These variables were considered powerful predictors of psychological health, as reports not only demonstrated an increased level of strain, but also decreased job satisfaction and a lack of organisational commitment when employees are dissatisfied with their career advancement opportunities (Bhalla, Jones & Flynn, 1991:289). Research has also shown that individuals subjected to role ambiguity were at higher risk of increased incidence of job-related strain, greater feelings of ineffectiveness and lower levels of self-confidence (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964:9, Kahn & Byosiere, 1990:365). Further research also found a cascade of symptoms, which correlated positively with role ambiguity. These symptoms range from high blood pressure, an increased pulse rate (French & Caplan, 1970:390), depression, low job motivation and intention to leave the job (Margolis & Kroes, 1974:70).

Job insecurity can be defined as one of the most common sources of job stress. Fear of unemployment is sometimes used to put pressure on the work force (Mzolo, 2004:34). In the case of redundancy, pressure of work is transferred directly onto the remaining individuals in the work force (Joyce et al, 2001:12). Stress related to job insecurity is fuelled further by restructuring, merges, takeovers, closures, poor pay (Porter, 1990:6) and a deficiency of desired feedback on progress (Joyce et al, 2001:11). Status inappropriateness is described as under-promotion or over-promotion and frustration of having reached the career ceiling (Cox et al, 2000:71). Summarised, these factors are all related to psychological effects, as well as poor physical health (Kasl & Cobb, 1982:188; Kasl, 1992:88).

Lack of variety or short work cycles, fragmented or meaningless work, under-utilization of ability and skills, as well as high levels of uncertainty are all aspects of the job content that can be hazardous or have detrimental effects on an individual (European Agency for Safety and Health at work, 2002:5). Lack of opportunity to further knowledge, increased intentional and conflicting demands, as well as insufficient resources has also been identified as further related aspects (Cox et al, 2000:75, Kasl, 1992:31). It is therefore not surprising to hear key personnel in the nursing field state that nurses should empower themselves by furthering their education and increasing their abilities and skills in order to withstand the test of time, with specific reference to the current state of nursing affairs and high levels of stress reported (Mafalo, 2003:11).

3.5.5 SOCIAL MATTERS

Social matters relating to work stress, in context of the WLQ, can be summarised as interpersonal relationships with other individuals. Their ability to manage social interaction depends on the perception they have of the degree of difficulty to deal with the situation.

The significance of interpersonal relationships in the workplace, especially between the employee and the supervisor, has been emphasized for both individual and organisational health (Demerouti, Bakker, Nachreiner & Schaufeli, 2000:459). It has been suggested

that the better the relationship, the smaller the incidence of high stress levels - especially amongst junior nurses (Teasdale, Brocklehurst & Thom, 2001:220).

Examples of interpersonal relationships are relationships with subordinates, peers, nurses, doctors, other members of the multidisciplinary team and administrative personnel. (Sauter, Hurrell, Murphy & Levi, 1998:34.3). If these interpersonal relationships are not supportive within the work setting, a correlation with high anxiety, emotional exhaustion, job tension, low job satisfaction and increased prevalence of cardiovascular disease will result (Danna & Griffin, 1999:372).

The adverse effects of working conditions can be balanced with the presence of three general constructs: stressors, strain and social support as explained in a meta-analytic study of 68 papers (Viswesvaren, Sanchez & Fisher, 1999:320). The results indicated that social support had a threefold effect on work stressor-strain relations (Viswesvaran et al, 1999:320; Cox et al, 2000:73). Not only did it reduce experienced strains and alleviated perceived stressors but also moderated the stressor-strain relationship (Viswesvaren et al, 1999:319). Therefore, support for nurses is important to consider (Champ, 2006:28).

3.5.6 REMUNERATION, FRINGE BENEFITS AND PERSONAL POLICY

This section within the questionnaire is governed by three work-related factors and is the final cause of work-related stress to be discussed for the purpose of this research study.

Other related research has shown that salary, fringe benefits and personal policies or regulations are constantly resulting in dissatisfaction amongst nurses and consequently increase their levels of perceived stress (Geyer, 2004:10). It is not surprising to know that currently in South Africa, nurses have ranked poor benefits and poor pay amongst the top five stressors (The Daily News, 2005:5). Although South African nurses are not paid in accordance with global market related salaries, the government refuses to amend its stand (IOL, 2005). Nurses' salaries are known to be inadequate and cannot be

recognised as a means to motivate nurses to work hard at all times (The Daily News, 2005:5). According to Mafolo (2003:11), nurses are being exploited as cheap labour.

Even on a provincial level, nurses are neglected. During DENOSA's third provincial congress in June 2004, it was agreed to put strategies in place to pressurise the Department of Health to give nurses in the Eastern Cape a uniform allowance similar to the other provinces. The costs for this amounted to R1 200 per nurse per annum. In October 2004 the Department of Health decided not to go through with the proposed uniform allowance, the reason being budget cuts due to mismanagement of funds. The Eastern Cape's nurses felt that their demands were not given the serious attention they deserved, which resulted in further action. As they were not allowed to strike, nurses of the province decided not to wear uniforms until their allowances had been granted (DENOSA, 2004/2005:21).

During March 2006, the Department of Health still did not have an agreement in place regarding uniform allowances and DENOSA went ahead and declared a dispute. The nurses also went ahead and enforced a pyjama tactic. This made a definite statement to the Department and to the public. Parliamentarians supported this effort and stood by as the employer was forced to agree to an allowance of R1200 for all provinces, including the Eastern Cape. To date, not all of the provinces have implemented the allowance yet (Geyer, 2006:34).

Rural and scarce skills allowances can be viewed in a similar context. Ironically, although nurses are referred to as the backbone of the healthcare sector on the political platform, while both the rural and scarce skills allowances were implemented unequally. This not only created division in the healthcare system, but also amongst nurses, thereby resulting in yet another cause of work-related stress (Geyer, 2004:10).

Initially, nurses were not included in the original scarce skills allowance negotiations. After much debate however, only nurses working in specialized fields (ICU, theatre and oncology) were included. Merely 3,2% of registered nurses benefited, but it was

promised that nursing would receive attention during the next round. These follow-up negotiations never became a reality. Currently, it is being debated that not all nurses should receive the scarce skills allowance. The question to ask then, is if it can still be called an allowance? Government commented by stating that they would rather investigate the possibility of increasing the remuneration package of healthcare professionals (Geyer, 2006:34).

Personnel regulations also plays a role, as no single nurse will ever be satisfied with all personnel policies or regulations enforced within the work environment. One has to bear in mind that these should reflect well on the organization, while also adhering to the set rules and regulations of legislation, governing bodies and organisations. Policy makers, however, often subject nurses to the decision latitude of degrading the professional status of a nurse (Mafalo, 2003:10). These results are a serious source of concern and need to be addressed urgently (Mafalo, 2003:11).

It is also known that a number of policies or regulations have been enforced over the years and are still being followed. Long working hours is an example of such a regulation and is synonymous with the nursing profession (see section 3.5.2 on Task Characteristics for discussion of working hours). Notwithstanding percentages, the fact remains that not only is individuals' health affected, but their levels of stress are also directly influenced in a negative manner. Satisfaction of needs can also be added to this equation with direct correlation to the levels of perceived stress reported by the nurses (Dembe et al, 2002:590).

3.6 SUMMARY

This literature review was aimed at achieving a better understanding, through other related research in collaboration with the WLQ, of the characteristics of stress at a self-reporting level, outside the work environment and within. Considering the information given, this chapter also forms the groundwork for the construct of the methodology and the corroboration or contradiction of the findings obtained from data collection.

CHAPTER 4

RESEARCH METHODOLOGY

4.1 INTRODUCTION

In contrast to intervention, physiological or psycho-physiological research conducted in a controlled environment, the researcher decided to conduct this study by means of self-reporting of causes and consequences in the form of a questionnaire. The descriptive outline of this questionnaire-based study will enable the reader to form a clear picture of the events that took place within the predetermined settings as mentioned briefly in Chapter 1.

4.2 RESEARCH DESIGN

A set of numerical values, which in turn determine the non-numerical description of the stated problem, was the main consideration for deciding upon the selected research design, i.e. an analytical, cross-sectional research design (*cf* Burns & Grove, 2001:255). Its quantitative nature enables the researcher to generalize the findings across the borders of the sample size (Struwig & Stead, 2001:5). Furthermore, the design was used not only to incorporate the existing interactional/transactional theory, (Cox et al, 2000:12), but also to identify problems currently present within the clinical environment, to facilitate change and to determine what other individuals would do in a similar situation (Burns et al, 2001:256).

4.3 POPULATION

The problems currently present within the clinical environment can only be substantiated in accordance with the research plan if a predetermined set of individuals is included in this study. A population comprising a set of individuals who met the researcher's sampling criteria was therefore selected and included in the study (Burns et al, 2001:292).

The selected private hospital group has a total of 62 treatment centres, which are equipped with 7200 beds, 319 operating theatres and 128 specialised medical units supported by 2 486 medical specialists and approximately 4 000 nurses. These hospitals, clinics and small care facilities, located in 32 units within the Gauteng Province, treat an estimated 800 000 patients every year. Care in these units are maintained by

approximately 2 000 nurses. Figure 4.1 below reflects the provincial distribution of the number of hospitals countrywide.

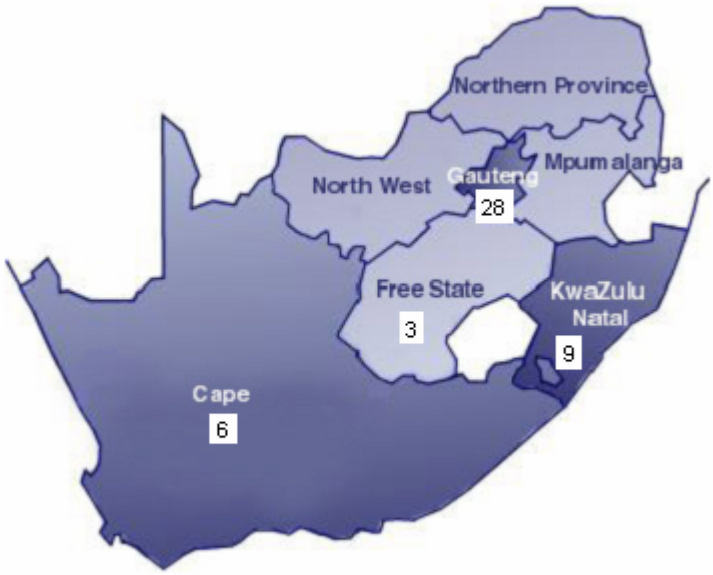


Figure 4.1 The provincial distribution of the selected private hospital group's health care facilities

In this study, registered and enrolled nurses as well as nursing auxiliaries employed by this hospital group were identified as the study population. Twenty-eight (28) hospitals met the research criteria, while the remaining four facilities were classified as either clinics or smaller care facilities.

4.4 SAMPLING METHOD AND SAMPLE SIZE

4.4.1 SAMPLING METHOD

A discussion of the nursing sample, focusing on the hospital group identified, the wards/units included, as well as the specific characteristics of the nurses involved, will follow.

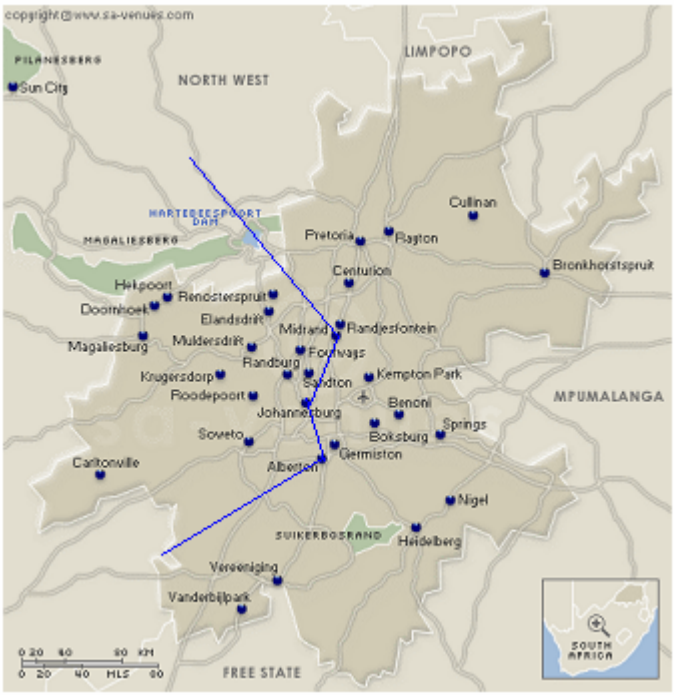


Figure 4.2 A regional distribution of the private hospital group in the Gauteng Province

4.4.2 HOSPITALS

The researcher decided to use the particular hospitals of a private hospital group in the Gauteng Province, not only based on the familiarity and close proximity thereof; but also because other private hospital groups in this province opted not to be part of the study.

The hospital group is divided into a western and eastern region (see Figure 4.2), the latter including Pretoria. As advised by the hospital group's management, a smaller unit as well as a larger facility were selected per region. A fifth hospital was selected randomly in order to perform the pilot study. Other selection criteria were:

- Easy access to the hospitals within a relatively safe environment
- The close proximity of the hospitals to one another and to the researcher
- The internal stability that existed with regard to the research environment, all units forming part of one hospital group under the auspices of one governing body

- Telephonic or written permission to conduct both the pilot and the main study (see Appendix D).

Provincial hospitals were not selected, as the number of variables that may have had an effect on internal stability could not be limited, thereby hindering the possibility of generalising findings across the borders of a sample (Struwig & Stead, 2001:5).

4.4.3 WARDS/UNITS

A purposeful sampling method was used for the sampling of the wards/units of the nursing participants. An analysis of the various wards in the four private hospitals was performed to identify and control the variables influencing this specific work environment (c*f:* Burns et al, 2001:299). Eight similar wards/units were identified per hospital. The wards/units included were surgical, medical (included cardiac, neurological, psychiatric and other related clinical facilities within the medical wards), orthopaedics, paediatrics, maternity (included antenatal and postnatal units), causality, theatre and all intensive care units.

Within these wards/units, the patient to nurse ratio was not considered a variable, as it was equal in the selected hospitals. However, the possible causes of non-work related stress, as variables, could not be minimized or controlled.

4.4.4 RESPONDENTS

All nurses permanently employed by the hospital group were purposefully selected. The respondents were chosen from the Gauteng province's private hospitals in particular, given the high nursing sample size in this province in comparison to other private hospital groups located in any of the other eight provinces in South Africa.

Registered and enrolled nurses and nursing auxiliaries who met the inclusion criteria stipulated below, were included in the sample until the rule of large numbers were obtained (Gravetter & Wallnau, 2002:150). The inclusion criteria, which also govern the number of variables in this study, were:

- Nurses employed by the private hospital group
- Full-time registered nurses, enrolled nurses and nursing auxiliaries scheduled for day duty, on a specific day (nurses on night duty did not form part of the sample, as a different set of variables were at stake).
- Availability of respondents as determined by means of preliminary duty rosters
- Proficiency in either Afrikaans or English
- Respondents who indicated that they were willing to sign informed consent forms.

4.4.5 SAMPLE SIZE

The management of the hospital group indicated that the results could be generalized to the targeted nursing staff employed in the group's other twenty-five (25) hospitals within the Gauteng Province. They provided the following reasons:

- The wards that were selected represent the 28 hospitals managed by the hospital group
- The nurse-patient ratio is equal in the above hospitals
- Only full-time nurses are involved – different variables are at stake for part-time nursing staff.

A total of 588 respondents (370 professional nurses, 157 staff nurses and 61 nursing auxiliaries) met the inclusion criteria and were selected as respondents.

4.5 MEASURING INSTRUMENT

A pre-existing structured questionnaire was used to gather data for this research study (see Appendix H & I). The questionnaire consisted of two divisions: a socio-demographic division (Van Zyl, 1998:23), and an Experience of Work and Life Circumstances Questionnaire (WLQ) (Van Zyl et al, 1994:25). The socio-demographic division was designed according to this study's specific needs. Socio-demographic data questions utilized in other research studies were also considered for inclusion in the new questionnaire – the reliability and validity of the pre-existing questionnaire were not influenced by these changes. Questions in this division included, but were not limited to: age, gender, marital status, race, nursing category, years of experience and qualifications.

An open-ended question regarding coping techniques implemented by the respondents was added to this division.

The WLQ division of the questionnaire was designed and released by the Human Sciences Research Council (Van Zyl et al, 1994:24). This structured questionnaire is a standardised level-B self-reporting questionnaire that consists of three subscales. All the items in this questionnaire have a selection of answers ranging from option one, virtually never, up to option five, virtually always. Approximately 30 - 40 minutes had to be allowed for completion of the questionnaire.

The first sub-scale, Scale A, of this questionnaire reflects the level of stress. It consists of 40 items and measures the symptoms of stress itself. Half of these items have a direct focus on the emotional experience of stress, while the remaining 20 items reveal the external emotional manifestations of stress (Van Zyl, 1998:23). With reference to a range of scores provided by the test developer to classify scores as high, moderate and low, this scale has a maximum score of 200, which is regarded to be a very high level of stress, and a minimum of 40, which is considered to be a normal level of stress (see Appendix K).

The second sub-scale, Scale B, reflects the aspects outside the work environment that can cause stress and consists of 16 items. These items do not only reflect individual and personal crises, but also problems within the home environment and social and socio-economic influences. The total of these 16 items is indicative of the frequency of stressors experienced outside of the work environment. The maximum score that can be obtained on Scale B is 80, while the lowest score is 16.

Finally, Scale C is compiled to assess the work-related causes of stress. These causes are measured by means of 60 items from which seven is a direct indication of an individual's circumstances within his or her work environment. The 53 remaining items indicate the extent to which an individual's expectations are met with regard to work-related matters. This scale is further divided into the following six sub-scales or categories:

- Organisational functioning
- Task characteristics
- Physical work environment
- Career matters
- Social matters
- Remunerations
- Fringe benefits
- Personnel policies

Each of these subcategories has their own minimum and maximum scores. It is, however, important to note that the interpretation of scores within this scale is not similar to that of the first two scales. In this case, the lower the score for a specific cause of stress within the work environment, the more the subcategory is regarded as a problem to the individual. The reason for the variation in the scores within the third category is due to the fact that not all the sub-categories consist of the same number of questions.

All the primary scales and sub-scales have been incorporated to structure the WLQ used in this study. This questionnaire measures work-related stress at a higher cognitive level, and in addition, also it is not restricted to any culture group. The test was developed for South Africans from all racial groups who had completed at least nine years of formal education. Additionally, the various sub-scales enable one to evaluate the level of stress in correlation with the causes thereof both outside of and within the work environment.

4.6 PILOT STUDY

The pilot study was performed in one of the private hospitals, the fifth selected hospital, within the selected private hospital group in the Gauteng Province. A total of five hospitals were involved in this research study: out of the 28 hospitals, one hospital was used for the pilot study and the remaining four for the main study. A total of 12 nurses were randomly selected from the duty rosters in two different wards and took part in the pilot study (see Figure 4.3).

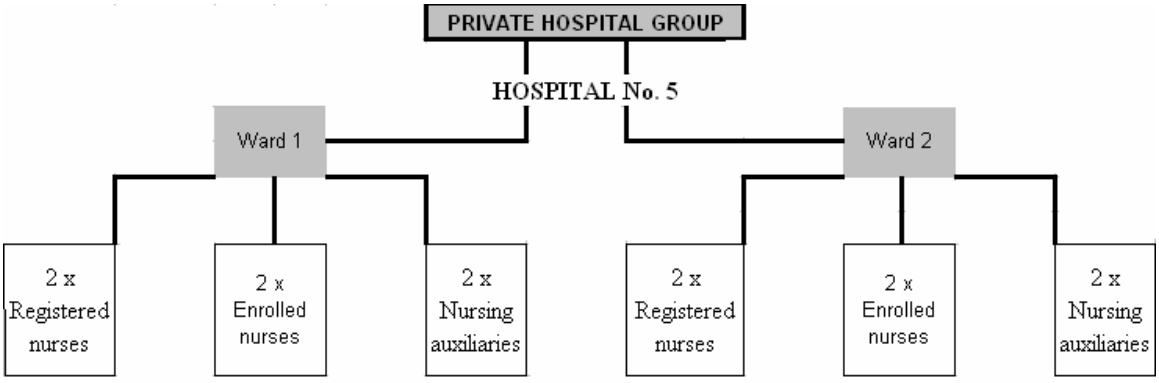


Figure 4.3 A diagram indicating the private hospital, wards and nursing staff included in the pilot study

Entry into the hospital coincided with the nursing staff reporting for day-duty. The ward secretaries handed the informed consent letter and questionnaire, enclosed in a brown envelope, to each of the respondents. The respondents were given the opportunity to complete the questionnaire between their nursing responsibilities. The researcher was readily available telephonically for any questions regarding the informed consent letter. After one hour and thirty minutes, the 12 nurses had completed the questionnaire, signed the informed consent form and sealed their documents in the brown envelope provided. An average of 30 minutes were spent on the completion of the questionnaire.

With the conclusion of the pilot study, a number of difficulties that may have presented during the main study were identified. Rectification of the issues was required before the main study could continue (*cf* Foster & Parker, 1995:134). The impression of the researcher is that the pilot study served its purpose to ensure the effectiveness of the informed consent form; the reliability of the demographic data; and to establish and confirm the practical feasibility of the questionnaire, especially regarding the time allocated for the completion of the WLQ.

The pilot study revealed changes that had to be made to the questionnaire instructions. This finding lead to the design, printing and duplication of an added set of instructions (see Appendix G), resulting from the shortcomings of the demographic data section on the questionnaire. The procedure that had to be followed by the respondents after

completion of the questionnaires was incorporated in the added instructions. The recording or coding of the questionnaire, for the purpose of analysis, and the textbox marked "For Office Use" remained unchanged. It is important to mention that the changes that were necessary did not influence the reliability and validity of the questionnaire.

After completion of the process as described above, the researcher commenced with the main study.

4.7 VALIDITY

The focus could be directed to The Human Sciences Research Council, who had developed the standardised questionnaire known as the Experience of Work and Life Circumstances Questionnaire (WLQ) (Van Zyl, 1998:22).

4.7.1 CONTENT VALIDITY

The content validity of this measuring instrument has already been proved in previous studies. As background to the concept, it can be stated that content-related validity confirms the degree to which the method of measurement includes all the major elements relevant to the construct being measured (Burns & Grove, 2001:226). In this study's context, the items of the WLQ were not only based on the model of Cox & Mckay (Cox, 1978:18), it was also evaluated and scrutinised by a panel of experts in the field of work-related stress (Van Zyl & Van der Walt, 1994:24). Further evidence of content validity for this instrument is based on a comprehensive investigation on relevant literature conducted by the researcher, feedback on the effectiveness of the questions from representatives of the relevant nursing populations in the pilot study, as well as feedback from content experts affiliated with the tertiary institution involved in this study. It can be stated that the content-related validity of the WLQ is satisfactory for the purpose of this study.

4.7.2 INTRA-TEST AND INTER-TEST METHODS

As a second component, validity has also been defined as the means with which a test/questionnaire measures a theoretical construct (Smit, 1981:65, Foster & Parker,

1995:90, Louw, & Edwards, 1998:321). In this regard, the intra-test and inter-test methods of the WLQ was determined. The intra-test method was directed at the scrutiny of the internal structure of the test/questionnaire (Smit, 1981:65) and it was determined that the WLQ has a correlation coefficient varying from 0,35 to 0,92. This means that a good correlation exists between the different sections/scales, supporting the construct validity of the questionnaire used in this study (*cf* Van Zyl, et al, 1994:25).

The inter-test method, on the other hand, refers to the evaluation of the inter-correlations with a number of related questionnaires (Smit, 1981:65). The following questionnaires were utilized in this regard: the 16PF (Sixteen Personality Factor Questionnaire); the "PHSF" (Personal, Home Social and Formal Relations) questionnaire; and the Reaction on Life Demands Questionnaire (Van Zyl, et al, 1994:26).

4.8 RELIABILITY

Reliability can be explained as the characteristic of a study that causes it to be trustworthy (Louw & Edwards, 1998:321). It has also been considered as a characteristic of an instrument measuring procedures or a set of observations, making it possible to obtain similar results if the measurement was to be repeated (Foster & Parker, 1995:89).

The reliability coefficient for all sections of the WLQ was not only calculated by means of the Kuder-Richardson formula 8 (as revised by Ferguson), but also confirmed by the test-retest coefficient (Van Zyl & Van der Walt, 1994:25). Results positively correlated with the reliability coefficients that were obtained by previous researchers for the 16PF-questionnaire, which ranged from 0,35 to 0,92 (Cattell, Eber & Tatsuoka, 1970:36).

In addition, the motivation of the respondents by means of an informed consent form, as designed and printed by the researcher, contributed to the reliability. The motivation was not only directed at the respondents completing the questionnaire in an anonymous manner, but also offered them the freedom to direct questions regarding the measuring instrument or any other study-related aspects to the researcher.

No questions were forthcoming, apart from 5 respondents who requested their individual scores after completion of the questionnaire. The researcher was unable to comply with these requests, as no arrangements had been made prior to the study. The Informed Consent form, as discussed later, stated that respondents would have the opportunity to obtain a copy of the study findings and recommendations, but individual scores were not offered.

4.9 ETHICAL CONSIDERATIONS

Measures were put into place to ensure that the rights of respondents, principles of respect for individuals, beneficence and justice were adhered to as outlined in Burns & Grove (2001:206). Apart from these points, permission was obtained telephonically and via e-mail for the use of the WLQ from the co-author of the questionnaire.

4.9.1 INSTITUTIONAL REVIEW

This research study was proposed to three committees within the University of the Free State for scrutiny and authorization. The Expert and Evaluation Committees of the School of Nursing, and the Ethics Committee of the Faculty of Health Sciences assisted and granted permission for the study to be carried out (see Appendix A & B).

4.9.2 INFORMED CONSENT

Further ethical considerations that were considered, were the respondents' rights:

- to confidentiality (*cf* Burns & Grove, 2001:207) – this was ensured by means of respondents signing the consent form;
- to be assured that no names would be linked to a completed questionnaire;
- that no personal information or data, collected by the researcher will be shared without the authorization of the respondents involved.

The consent forms were considered as essential to conduct an ethically correct research study (see Appendix E & F). As a result the informed consent form contained the following elements (*cf* Burns et al, 2001:206):

- Disclosure of essential information

- Comprehension
- Competency
- Voluntarism

The researcher conveyed essential information about the study to prospective respondents via a verbal message to the ward/unit secretary. Written confirmation of the message was made available to all respondents by means of the Informed Consent form, as well an added set of instructions as determined in the pilot study. Information identified by the Code of the Federal Regulations, as stated in Part 46: Protection of Human Subjects (NIOSH, 2002:2) was also adhered to (see Addendum E and F): Information also included the research:

- Activities: the respondents were informed that the study involved research and that they were requested to participate
- Purpose: an explanation of how the research will be conducted and the duration of the respondents' involvement were provided
- Procedures: the respondents did not only receive a layout of the planned procedure of data collection, but also information regarding the completion of the questionnaires, which were made available in English and Afrikaans
- Benefits: respondents were informed that they would have the opportunity to obtain a copy of the study findings and recommendations from the office of the Chief Executive Officer of the hospital group
- Assurance of anonymity and confidentiality: respondents were assured that the information obtained from their questionnaires would be kept confidential at all times. Respondents were also ensured that their identity would not be disclosed in any reports or publications that may result from this study.

Other information included were:

- An offer to answer questions: The researcher was available telephonically to answer respondents' questions during the data collection phase. The researcher's contact details were provided on the consent form

- A non-coercive disclaimer: it was stated that respondents' participation was voluntary and that the decision not to participate would not lead to any penalty
- The option to withdraw: respondents were informed that withdrawal from the study would be allowed at any time without penalty. Although the researchers had reserved the right to ask respondents if they would reconsider their withdrawal, in order to limit the withdrawal of candidates at an early stage, no action in this regard was necessary.

4.9.3 PRIVATE HOSPITAL GROUP

Follow-up telephone conversations were made to the Chief Executive Officer and Chief Registered Nursing Officer of the hospital group approximately two weeks prior to the planned date of the pilot study and the main data collection phase. The purpose of the study, the population and sampling as well as procedures planned for both the pilot and the main studies were once again explained and related questions were answered. Thereafter, verbal telephonic permission to conduct the pilot and main studies was obtained from both officers. Written permission were said to follow (see Appendix C & D).

Communication with the above-mentioned key officers was problematic during the two weeks that followed the researcher's initial contact with them, due to their commitment to meetings; their out of office status; and two banking holidays. Time constraints forced the researcher to travel to the Gauteng Province without the proof of the written permission. However, entry into the selected private hospitals was not granted without this document. New preliminary arrangements for the purpose of the pilot study were made with the fifth hospital that was identified. This decision was made pro-actively by the researcher in order to be in readiness when receiving the permission/approval document. After a delay of four days, a fax containing the confirmed permission was received.

The hospital group requested that all identifiable data be excluded from the research study for the purpose of confidentiality. The name of this organisation has therefore not

and will not be published without the written consent from the academic board of the hospital group in question. A copy of the completed research report will be made available to the management of the hospital group after final approval thereof by the tertiary institution.

4.10 DATA COLLECTION

After the necessary corrections were made, the researcher visited the two western and two eastern region hospitals selected for the study. The visits took place during the course of a morning. Each hospital was allocated a marked box with questionnaires, consent forms and a set of instructions in unsealed brown envelopes.

Upon entry of each hospital the researcher met with the nursing officers in charge. During this engagement, permission to enter the specific hospital for the purpose of conducting research was signed and the procedure to follow discussed with the personal assistants of the nursing officers. These arrangements were necessary, as time constraints did not allow for the researcher to enter each selected ward due to the delayed receipt of the confirmed research permission.

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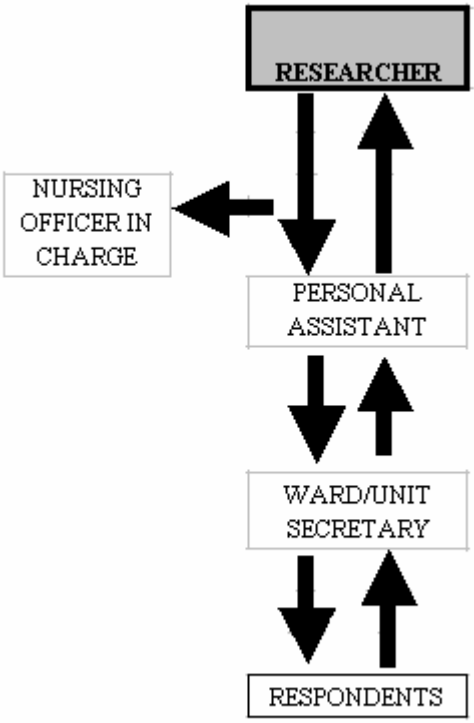

Figure 4.4 Diagram indicating the order of data collection

The nursing officers' personal assistants were identified as contact persons responsible for the distribution of questionnaires and the safekeeping of completed questionnaires. The marked boxes were handed over and kept in the assistants' offices. The secretaries of the selected wards/units were contacted and requested to fetch the questionnaires from the central office, and to distribute them to the nursing staff scheduled for day-duty the following day. The ward/unit secretaries were responsible for the duty roster and the number of participants scheduled for the particular day. They accepted the blank unsealed questionnaires and were briefed on the plan of action.

The following day, the secretaries briefed the respondents and distributed the envelopes containing the questionnaires and Informed Consent forms. Although the researcher did not have control over the message that was delivered to the respondents, the Informed Consent form and added set of instructions were considered ample information in the event of a failed verbal message and were therefore seen as a backup measure.

The respondents were encouraged to complete the questionnaires on the day of distribution. The primary reason was to decrease the amount of problems that could arise regarding the consistency of the data gathering process. The following factors were considered beforehand (*cf* Burns & Grove, 2001:229):

- Some respondents might have asked to take the questionnaire home to complete and may have returned it later or not at all, whereas others would have completed it the same day;
- A number of respondents would have completed the questionnaire themselves, whereas others may have asked a family member to write the responses that the respondent dictates; and
- In some cases, the questionnaire may possibly have been completed by a subordinate rather than by the respondent him/herself.

These circumstances could possibly lead to bias in the responses, influencing the findings of the study. Although difficult to ascertain, the researcher did not find any reason to believe that the accurate measure of the variables were altered.

In addition, the researcher included the following written instructions:
"Questionnaires must be completed as far as possible within one day after receipt thereof;
Information provided by respondents must not be discussed with any other person; and
Completed questionnaires must be sealed in the envelope provided."

The ward/unit secretaries handed the completed and sealed questionnaires to the assistants' offices as instructed. The researcher contacted the assistants telephonically on a daily basis for an update on the number of questionnaires that were returned. On the fourth day of data collection a stopover was made at all four private hospitals to collect the marked boxes. In total, four days were used to complete the data gathering.

Subsequent to the gathering of data the questionnaires were counted and coded by the researcher. Details regarding the response rate for the questionnaire will be provided in Chapter 5.

4.11 RESULTS

The levels of stress were determined according to an existing scoring stencil (see Appendix J) that will be discussed in detail in Chapter 5. Descriptive statistics (medians and percentiles for continuous data and frequencies as well as percentages for categorical data) will also be discussed in the following chapter as calculated per category of nursing respondents. The nursing categories were compared by means of 95% confidence intervals. In order to facilitate this process, a member of the Department of Biostatistics, in the University oh the Free State, completed the analysis, followed by the researcher's interpretation of the data.

4.12 DATA INTERPRETATION

The results, interpretation, possible conclusions, recommendations and limitations of the study will be discussed in Chapter 5, 6 and 7. The final report will be presented to the tertiary institution and the management of the private hospital group in Gauteng.

4.13 METHODOLOGICAL FLOW OF REASEARCH STUDY

4.13.1 PHASE 1: OBSERVATION

This period served as a familiarization and observation phase in which the research was conceptualised. The period also included the writing of the proposal as well as the review of applicable literature.

4.13.2 PHASE 2: ETHICAL CONSIDERATIONS

The planned research study were submitted to and approved by the Expert and Evaluation committees of the School of Nursing, and the Ethics committee of The Faculty of Health Sciences.

4.13.3 PHASE 3: DATA COLLECTION

During this phase, the pilot study was conducted. The changes resulting from this preliminary investigation were addressed and implemented in the main study.

4.13.4 PHASE 4: ANALYSIS OF DATA

In this phase, data was coded by the researcher and submitted to the Department of Biostatistics for analysis. A framework for data analysis was subsequently developed and executed.

4.13.5 PHASE 5: REPORTING

This phase included the completion of the literature study, research methodology, interpretation of the data analysis, findings that have to be written up, offering of recommendations, and completion of the dissertation as a whole. Thereafter, the dissertation will be submitted externally for grading and approval before it can be binded and distributed to the applicable role players.

4.14 SUMMARY

With the conclusion of this section and chapter it can be stated that the methodological blueprint of this analytical, cross-sectional research study was not only expounded on in detail but also pursued as far as possible during the data gathering process. Furthermore, the quantitative nature of the research design allows for the findings to be discussed in parallel over the borders of the sample size in the study population.

This methodology was used to profile the risk of the three nursing categories included in this study, in order to identify trends and problems currently present within the clinical set-up or direct environment, to facilitate change and to determine what other individuals would do in a similar situation.

CHAPTER 5

RESULTS

5.1 INTRODUCTION

In this chapter, the results obtained from the investigation by means of a questionnaire, (see appendix H and I), will be discussed and illustrated by means of tables and frequencies. As a result of skewed or asymmetrical data obtained, medians and percentiles (non-parametric methods) will be provided instead of standard deviations and means. The feedback regarding the results will be according to Figure 5.1.

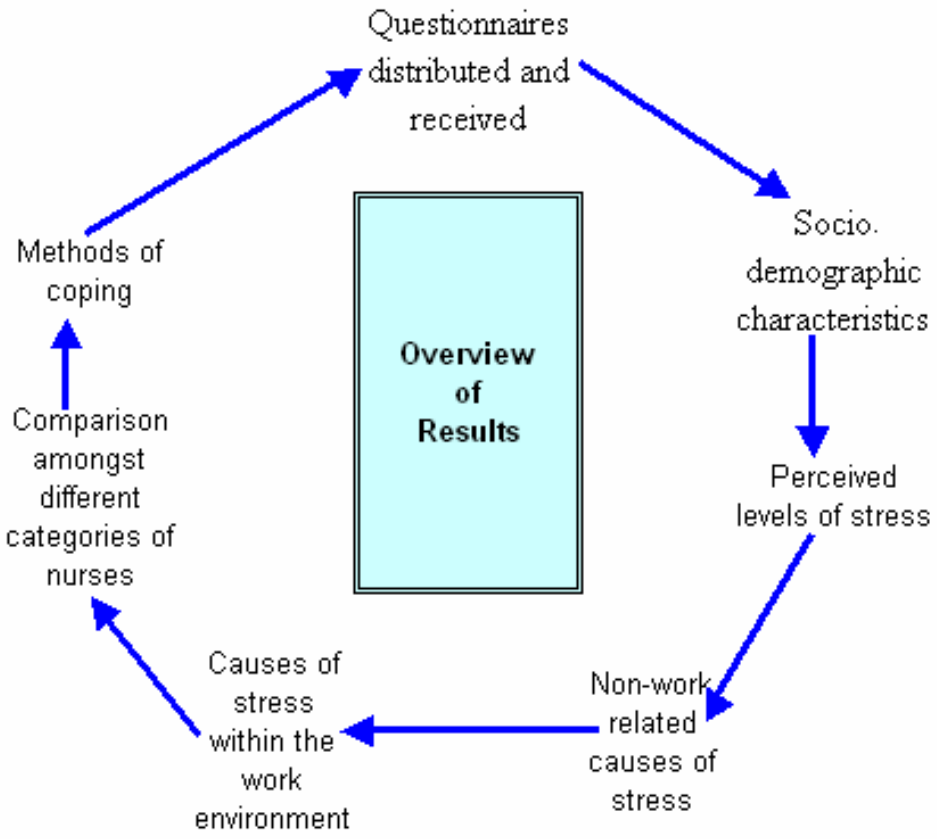

Figure 5.1 Structure of the results discussed in this chapter

Initially, an indication of the response rate in the form of questionnaires that had been distributed and received, will be the main focus: first as an indication of the overall response rate (see Figure 5.2) and secondly as a daily return rate (see Figure. 5.3). Thereafter, the three nursing categories will be represented with regard to their socio-demographic data, perceived levels of stress, the causes of non-work related levels of stress, causes of stress within the work environment, comparison amongst different

categories of nurses and methods of coping, all compared to the subsequent levels of stress according to the format of the study's objectives (see Chapter 1). The interpretation of results is presented in Chapter 6, while the recommendations and the conclusion are presented in Chapter 7.

5.2 QUESTIONNAIRES DISTRIBUTED AND RECEIVED

As mentioned previously, the questionnaire status of the main investigation will be the first topic of discussion in this chapter. Subsequent to the data collection phase, the questionnaires were collected from the four participating hospitals. A total of 588 nurses each received an unsealed envelope, with the informed consent and questionnaire enclosed. This total represented 370 professional nurses, 157 staff nurses and 61 nursing auxiliaries. Although this sample size was calculated by means of the sum of nurses expected to be present on a particular day according to the duty rosters, it did not result in the number of questionnaires returned. The intended sample did, however, abide to the rule of the law of large numbers (*cf* Gravetter & Wallnau, 2002:150) as stated in Chapter 4. Figure 5.2 and 5.3 underneath has reference.

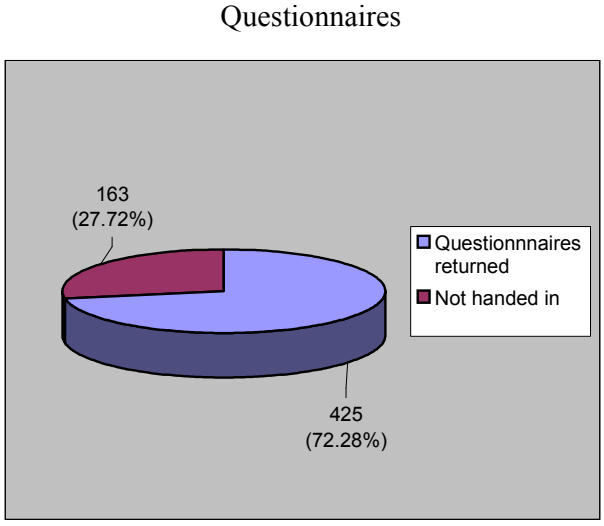

Figure 5.2 Total allotment of questionnaire distributed

In total, 425 (72.28%) questionnaires were returned. However, 126 (29.65%) of the questionnaires returned were not fully completed and were discarded by the Biostatistician. A further 163 (27.72%) questionnaires were returned. One hundred and three (24.23%) questionnaires were completed without the consent form having been signed by the respondents. As the signed informed consent formed part of the respondents' inclusion criteria, the researcher was not allowed to include these questionnaires into the findings of this investigation.

Taking in consideration the above, 196 questionnaires (46.12%) of the initial estimated sample size could be used for the purpose of analysis in this study.

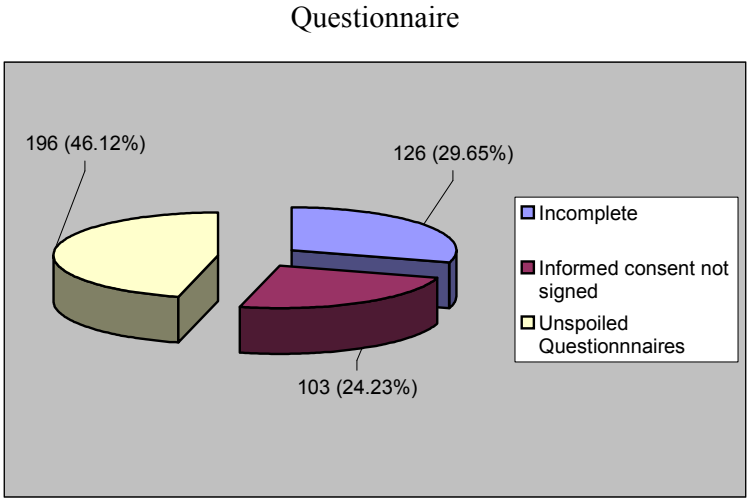

Figure 5.3 Status of returned questionnaires

The daily questionnaire response/return rate reflected a daily decline (see Figure 5.4). Although 247 (58%) questionnaires were returned on the first day, a decline of 31.2%, of the total number of questionnaires returned, occurred on the second day, implying that only 114 (26.8%) questionnaires were handed in on Day 2. During the consecutive two days, 55 (13%) and 9 (2.2%) questionnaires were received respectively. No questionnaires were handed in thereafter, as confirmed by the assistants.

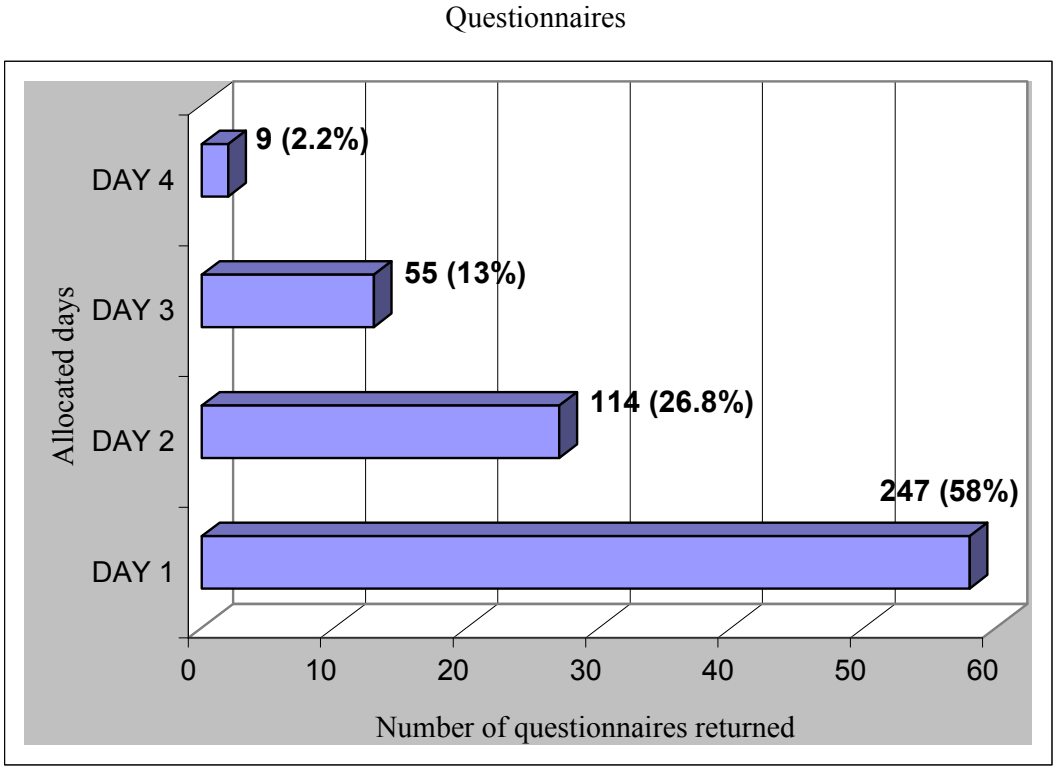

Figure 5.4 Percentages of questionnaires returned on a daily basis

The assistants and ward/unit secretaries reported that workload, time constraints, the length of the questionnaire, and lack of enthusiasm was relayed to them as factors influencing the decreased response rate (see Chapter 6 for discussion).

5.3 DISCUSSION OF RESULTS

A cross-sectional research design was selected. This design would direct the findings in the form of numerical values across the three nursing categories to determine the non-numerical characteristics of the study objectives. In essence, the various scales and subscales between the three nursing categories will be examined according to the aims and objectives discussed in Chapter 1. As a result, all the findings to follow will be related to the levels of stress and the causes thereof amongst professional nurses, staff nurses and nursing auxiliaries in a selected private hospital group in the Gauteng Province. The specific objectives will be discussed below as points that were measured to obtain such an aim.

5.3.1 FREQUENCIES OF SOCIO-DEMOGRAPHIC CHARACTERISTICS

The second objective, that of the contribution of diverse socio-demographic characteristics over the three nursing categories, will be discussed next according to the findings obtained. To facilitate this discussion, Question 1.1 - 1.15 will be presented in this section. Question 1.16 (management of stress), will be discussed in the section on coping later in this chapter.

5.3.1.1 Overview of Respondents

The sample population was planned to consist of 370 professional nurses, 157 staff nurses and 61 nursing auxiliaries in the category of nurses as represented in this study. However, the final distribution per nursing category of the research group is presented in Figure 5.5.

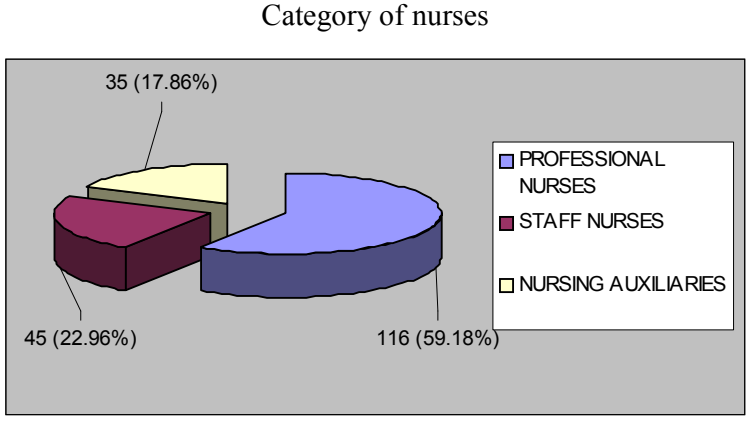

Figure 5.5 Number of nurses in each category represented in this study

In total, 116 (59.18%) professional nurses, 45 (22.96%) staff nurses and 35 (17.86%) nursing auxiliaries were included in this study.

5.3.1.2 Summary of specific socio-demographic characteristics

Five of the socio-demographic characteristics (gender, amount of sick leave taken by respondents, childbearing status, marital status and race) have been included in Table 5.1 below.

Table 5.1 The socio-demographic characteristics of respondents

SOCIO-DEMOGRAPHIC CHARACTERISTICS	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
	N	%	N	%	N	%
GENDER						
Male	2	1.72	2	4.44	1	3.03
Female	114	98.28	43	95.56	32	96.97
No response	0		0		2	
AMOUNT OF SICKLEAVE						
0 days	37	34.59	12	32.44	9	36
1-3 days	30	28.04	11	29.73	4	16
4-7 days	23	21.49	10	27.03	10	40
7<14 days	12	11.21	2	5.4	2	8
2-4 weeks	1	0.94	1	2.7	0	0
More than a month	4	3.73	1	2.7	0	0
No response	9		8		10	
CHILD BEARING STATUS						
Women/man with child or children	88	77.88	36	83.72	23	74.19
Women/man with no children	25	22.12	7	16.28	8	25.81
No response	3		2		4	
MARITAL STATUS						
Married	62	55.36	20	44.44	14	43.74
Unmarried or single	32	28.57	16	35.56	9	28.13
Divorced or separated	13	11.61	6	13.33	4	12.5
Live together	5	4.46	3	6.67	5	15.63
No response	4		0		3	
RACE						
White/European/Caucation	61	58.1	19	50	9	34.62
Black/African	34	32.38	15	39.47	15	57.68
Indian	1	0.95	3	7.89	1	3.85
Coulored	9	8.57	1	2.64	1	3.85
No response	11		7		9	

5.3.1.3 Gender

Female nurses were best represented in the sample. In total, more than 96.9% of nurses in the selected categories were female, while 3.03% were males. The highest male population was found amongst staff nurses: 4.44% (see Table 5.1).

5.3.1.4 Sick leave

With regard to the amount of sick leave, a total of 37 (34.59%) professional nurses, 12 (32.44%) staff nurses and 9 (36%) nursing auxiliaries took no sick leave over a period of 12 months. The number of sick leave days taken by the respondents ranging from 1 day up to and excluding 14 days was 65 (60.74%) professional nurses, 23 (62.16%) staff nurses and 16 (64%) nursing auxiliaries. The number of sick leave days taken exceeding four weeks, or a month, was 4 (3.73%) professional nurses, 1 (2.7%) staff nurses and no (0%) nursing auxiliary (see Table 5.1).

5.3.1.5 Female/male with or without children

As a result of this question the data obtained reflected that 88 (77.88%) professional nurses, 36 (83.72%) staff nurses and 23 (74.19%) nursing auxiliaries have children. The lowest rate of childlessness however, was reported for staff nurses, with 7 (16.28%) respondents in this category (see Table 5.1).

5.3.1.6 Marital status

A proportion of 12.48% (N=23) of the total group of participants reported that they were divorced or separated. The distribution was 13 (11.61%) professional nurses, 6 (13.33%) staff nurses and 4 (12.5%) nursing auxiliaries. Most of the nurses (37.93%) were, however, married (see Table 5.1).

5.3.1.7 Race

The majority of professional nurses (61 [58.1%]) and staff nurses (19 [50%]) were white. The majority of nursing auxiliaries though were black (15 [57.68%]). Indian and coloured nurses were the lowest represented race groups across the three nursing categories (see Table 5.1).

5.3.1.8 Age

The maximum age ranged from 51 - 61 years, while the minimum age varied from 19 – 25 years, where 19 is the minimum age as reported by the nursing auxiliaries and 25 years the lowest age of the professional nurses. The minimum age of the staff nurses was recorded at 21 years (see Table 5.2).

Table 5.2 Socio-demographic characteristics - Age and experience

SOCIO-DEMOGRAPHIC CHARACTERISTICS - AGE AND EXPERIENCE			
	PROFESSIONAL NURSES (N=116)	STAFF NURSES (N=45)	NURSING AUXILIARIES (N=35)
	Years	Years	Years
AGE			
Maximum	61	51	59
Median	38	33	35
Minimum	25	21	19
EXPERIENCE			
Maximum	36	30	32
Median	14	7	8.5
Minimum	1	1	1

5.3.1.9 Experience

Professional nurses had the most work experience, with a maximum of 36 years' experience. The number of years' experience of the two remaining categories averaged 31 years (see Table 5.2).

5.3.1.10 Hospital

According to the data obtained, Hospital C had 34 (29.31%) professional nurses taking part in the study, the highest number of all four hospitals, while Hospital B had the most staff nurses participating (17 [37.78%]) and Hospital A had the largest number of nursing auxiliaries for this category (15 [44.12%]) (see Table 5.3 below).

Table 5.3 Socio-demographic characteristics – Hospital and Ward distribution

SOCIO-DEMOGRAPHIC CHARACTERISTICS - HOSPITAL AND WARD/DIVISION DISTRIBUTION						
	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
	N	%	N	%	N	%
HOSPITAL						
Hospital A	31	26.72	15	35.56	15	44.12
Hospital B	26	22.41	17	37.78	6	17.65
Hospital C	34	29.31	9	20.00	9	26.47
Hospital D	25	21.55	3	6.67	4	11.76
DIVISION/WARD						
Surgical Ward	9	7.89	5	11.11	5	16.13
Medical-, Cardiac-, Neurological-, Psychiatry Ward, Clinical Facilities	32	28.07	15	33.33	14	45.16
Orthopaedics Ward	4	3.51	5	11.11	0	0
Paediatric Ward	7	6.14	1	2.22	6	19.35
Antenatal-, Maternity-, Post natal Ward	18	15.79	8	17.79	3	9.68
Causalities	2	1.75	2	4.44	2	6.45
Theatres	11	9.66	7	15.56	1	3.23
All ICU's	31	27.19	2	4.44	0	0
No response	2		0		4	

5.3.1.11 Ward/Division

The ward/division represented by the total research group was the General Ward; a combination of medical, cardiac, neurological and psychiatric divisions, including clinical facilities. The professional nurses were represented by 32 (28.07%) nurses, while 15 (33.33%) staff nurses and 14 (45.16%) nursing auxiliaries participated in the study (see Table 5.3 above).

5.3.1.12 Highest qualifications

As a result of the analysis of data, it became apparent that this question did not result in accurate statistics overall, as it appeared that the respondents did not answer the question correctly. An example of this is of a professional nurse who responded that her highest qualification was Standard Eight (Grade 10), although this is clearly not the case. It was

decided that the results of this question could not be included in this discussion, but that they will be addressed in Chapter 7 as a limitation in this study.

5.3.1.13 Type of shift worked

According to the data obtained on Question 1.7 in Section 1, 'Which shift do you work at present', more than 107 (65%) nurses over the three categories reported that they work regular hours during the day (see Table 5.4 below). This is, however, an incorrect indication, as the question was not understood correctly according to the nursing manager of the hospitals. Regular hours, in their frame of reference, can also mean hours that have been scheduled for the shifts to be worked the following week and not just a 08:00 – 16:00 day. As a result, the validity of this specific item on the questionnaire is questioned and should be disregarded (see Table 5.4).

Table 5.4 Socio-demographic characteristics - Type of shift worked

SOCIO-DEMOGRAPHIC CHARACTERISTICS - SHIFT ALLOCATION						
	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
SHIFTS						
Day: Irregular hours	53	48.18	15	36.59	6	20.00
Day: Regular hours	57	51.82	26	63.41	24	80.00

5.3.1.14 Transfer

Professional nurses reported the highest transfer rate of nurses from other hospitals or clinics 11 (9.73%), while 19 (16.52%) nurses indicated that they were in the process of arranging to work abroad. Sixteen (38.1%) staff nurses stated that that they have transferred from another ward during the past year and 5 (11.1%) nurses in this category reported that they are in the process of resigning (see Table 5.5 below).

Table 5.5 Socio-demographic characteristics – Transfers

SOCIO-DEMOGRAPHIC CHARACTERISTICS - TRANSFERS						
	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
	N	%	N	%	N	%
TRANSFERRED						
Another hospital/clinic	11	9.73	3	7.15	2	7.41
Ward	15	13.28	16	38.1	2	7.41
Not applicable	87	76.99	23	54.75	23	85.18
Not completed	3		3		8	

5.3.1.15 In the process of resigning

The highest resignation rate was found in the category of staff nurses, as 5 (11.11%) nurses indicated that they are in the process of resigning (see Table5.6).

Table 5.6 Socio-demographic characteristics – Resignation and Work abroad

SOCIO-DEMOGRAPHIC CHARACTERISTICS - RESIGNATIONS AND WORK ABROAD						
	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
	N	%	N	%	N	%
RESIGNATION						
Yes	9	7.89	5	11.11	2	6.05
No	105	92.11	40	88.89	31	93.95
Not applicable	2		0		2	
WORK ABROAD						
Yes	19	16.52	5	11.11	2	6.45
No	96	83.48	40	88.89	29	93.55
Not applicable	1		0		4	

5.3.1.16 Relocation abroad

Nineteen (16.52%) professional nurses indicated that they were arranging to work abroad, while this was the case for only 2 (6.45%) nursing auxiliaries. Five (11.11%) staff nurses reported that they to were planning to work abroad (see Table5.6).

With above-mentioned question the socio-demographic section regarding Question 1.1 - 1.15 is concluded for the purposes of this chapter. Subsequently the level of stress amongst all three nursing categories will be discussed.

Specific Objectives

To determine the following amongst nurses in the Gauteng Province:

- their perceived levels of stress
- the contribution of diverse socio-demographic characteristics on the level of stress

5.4 LEVELS OF STRESS

The perceived levels of stress and the diverse socio-demographic characteristics of all nurses in the study have been stated as the first objective of this study. Apart from the levels of stress, stressors outside of the work environment and stressors related to the work environment will also be reported on. Although it is possible to view the levels of stress on its own, interpretation thereof can only be of value if the findings of both categories are viewed in retrospect and in conjunction with the perceived levels of stress. A summary of the levels of stress as perceived and reported by the three selected categories of nurses is provided below (see Table 5.6).

5.4.1 PERCEIVED LEVELS OF STRESS

The scale distribution on the interpretation of the levels of stress, as indicated below, has been calculated by adding the scores on the 40 items of Scale A of the questionnaire (see Table 5.7). A minimum score of 40 and a maximum score of 200 was possible for this particular scale with 98 - 200 indicating a 'Very High' level of stress (in red), 80 - 97 indicated a 'High' level of stress (in yellow) and 40 - 79 represented a 'Normal' level (in green) of stress (see Table 5.5).

Table 5.7 The interpretation of the score on the level of stress

SCALE	LEVELS OF STRESS
Very high	98-200
High	80-97
Normal	40-79

As a result the following data will reflect the levels of stress as perceived by the different categories of nurses:

Table 5.8 The perceived level of stress of the different nursing categories

LEVEL OF STRESS			
	PROFESSIONAL NURSES (N=116)	STAFF NURSES (N=45)	NURSING AUXILIARIES (N=35)
	Frequency	Frequency	Frequency
Maximum score	153	124	179
Median score	75	70	71
Minimum score	40	44	45
	Skewness	Skewness	Skewness
	0.97187353	0.7844769	2.06984311

The perceived levels of stress were indicated as follows: nursing auxiliaries had the highest maximum score of 179, professional nurses had a score of 153 and staff nurses had a score of 124, all a 'Very high' level of stress.

Although the nursing auxiliaries reflected the highest maximum score, the median of all three nursing categories could be classified within normal ranges (40 – 79) as indicated in Table 5.7, with the staff nurses at a median score of 70, nursing auxiliaries at 71 and professional nurses at a score of 75; only five score points from a 'High level' of stress. The skewness of the data will be discussed later in this chapter.

5.4.2 THE SOCIO-DEMOGRAPHIC CHARACTERISTICS AND THE LEVEL OF STRESS

The second part of the study objective, the contribution of diverse socio-demographic characteristics on the level of stress, will be illustrated by means of tables, which include the adjusted r^2 and standardized regression coefficient, as well as the Sigma-restricted Parameterisation. The significance of findings according to these tables will however be discussed in detail in Chapter 6 as this chapter is reserved for the reporting of tables and frequencies. It is important to note that the models designed for the subsets combined all three nursing categories. The nursing categories have, however, been included as one of the variables in the model. Therefore, the contribution of the socio-demographic characteristics on the reported level of stress will be for all nurses, and not per nursing category, by means of the best subsets.

Table 5.9.a-d A summary of the best subsets regarding nurses' perceived level of stress

(See Table 5.9.a, 5.9.b, 5.9.c and 5.9.d respectively
on the following five consecutive pages)

Table 5.9.a A summary of the best subsets with nurses' perceived level of stress

ADJUSTED R^2 AND STANDARDIZED REGRESSION COEFFICIENT									
Subset No.	**Adjusted R^2**	**No. of Effects**	**q1_1**	**q121**	**q122**	**q123**	**q141**	**q142**	**q1_5**
1	0.537152	12		-0.162457	-0.181150	0.120344	0.098279		0.119903
2	0.536993	13	0.151422	-0.156328	-0.168307	0.122871	0.108811		
3	0.536210	13		-0.161027	-0.178996	0.118071	0.10179		0.137358
4	0.536000	14	0.155217	-0.172736	-0.192152	0.122911	0.12359		
5	0.535803	13		-0.177984	-0.203766	0.119431	0.111123		0.120752
6	0.535175	14	0.148492	-0.145095	-0.152524	0.131774	0.105269		
7	0.535097	12	0.109249	-0.160463	-0.175372	0.122055	0.097988		
8	0.534970	13		-0.152206	-0.166667	0.128331	0.094679		0.115694
9	0.534707	13	0.115683	-0.178139	-0.201001	0.122144	0.114702		
10	0.534569	14	0.147406	-0.168692	-0.178581	0.12195	0.118718		

Key:

Socio demographic characteristics

q1_1 Age

Hospital Group

q121 Hospital A
q122 Hospital B
q123 Hospital C

Nursing categories

q141 Staff nurses
q142 Registered nurses

Table 5.9.b A summary of the best subsets with nurses' perceived level of stress

ADJUSTED R^2 AND STANDARDIZED REGRESSION COEFFICIENT									
Subset No.	**q1_6**	**q1_7**	**q1_8**	**q1_9**	**q1_10**	**q112**	**q1_14**	**q1151**	**q1152**
1	0.132471		0.13823	-0.103482	-0.096762				-0.185557
2	0.139276		0.107419	-0.100735	-0.101529	0.085115			-0.187313
3	0.134409		0.096865	-0.106648	-0.092590	0.057229			-0.170302
4	0.132516		0.111187	-0.098815	-0.100063	0.080871		0.082034	-0.138539
5	0.126604		0.106449	-0.102103	-0.094796			0.076506	-0.138875
6	0.132492		0.102061	-0.088913	-0.105208	0.085306			-0.185085
7	0.136838		0.113567	-0.098174	-0.104469				-0.204871
8	0.12649		0.099154	-0.092528	-0.100314				-0.184178
9	0.129596		0.117344	-0.096219	-0.102710			0.089499	-0.150704
10	0.136829		0.107777	-0.098919	-0.101622	0.086247			-0.196295

Key:

Socio demographic characteristics

q1_5	Years of experience
q1_6	Highest qualification
q1_7	Shift
q1_8	Transfer
q1_9	Resigning
q1_10	Work abroad
q112	Children
q1_14	Marital status

Race

q1151	White/European/Caucation
q1152	Black/African

Table 5.9.c A summary of the best subsets with nurses' perceived level of stress

ADJUSTED R^2 AND STANDARDIZED REGRESSION COEFFICIENT									
Subset No.	**q1153**	**q1_16**	**Score 2**	**Score 3**	**Score 4**	**Score 5**	**Score 6**	**Score 7**	**Score 8**
1			0.534706					-0.313298	
2			0.540006					-0.317457	
3			0.537093					-0.310466	
4			0.541325					-0.312567	
5			0.534968					-0.308531	
6			0.544149	-0.068697				-0.266536	
7			0.531715					-0.320057	
8			0.538065	-0.062871				-0.266929	
9			0.533605					-0.314581	
10	-0.042230		0.539403					-0.315206	

Key:

Socio demographic characteristics

q1153 Indian,

q1_16 Sick leave

Causes of stress outside the work environment

Score 2 Causes Outside the work environment (COWE)

Causes within the work environment (Score 3-8)

Score 3 Organisational function (OF)

Score 4 Task characteristics (TC)

Score 5 Physical working conditions (PWC)

Score 6 Career matters (CM)

Score 7 Social matters (SM)

Score 8 Remuneration, Fringe benefits and Personal Policy (RFP)

Table 5.9.d A summary of the best subsets with nurses' perceived level of stress

Sigma-restricted Parameterisation									
Effect	**SS**	**Degree of Freedom**	**Mean square**	**F distribution**	**Regression coefficient**	**Standard Error rate**	**t value**	**p value**	**Beta (β)**
q1_1		0							
q121	756.38	1	756.38	2.84195	-8.24772	4.89244	-1.68581	0.094568	-0.162457
q122	921.07	1	921.07	3.46078	-9.60053	5.16070	-1.86032	0.065418	-0.181150
q123	465.96	1	465.96	1.75077	6.76715	5.11435	1.32317	0.188427	0.120344
q141	494.57	1	494.57	1.85826	5.66232	4.15376	1.36318	0.175512	0.098279
q142		0							
q1_5	812.16	1	812.16	3.05154	0.30063	0.17210	1.74686	0.083354	0.119903
q1_6	919.91	1	919.91	3.45641	0.73029	0.39281	1.85914	0.065585	0.132471
q1_7		0							
q1_8	667.81	1	667.81	2.50917	3.71725	2.34670	1.58404	0.115956	0.103823
q1_9	726.82	1	726.82	2.73091	-8.4499	5.11326	-1.65255	0.101175	-0.103482
q1_10	582.10	1	582.10	2.18712	-7.16109	4.84219	-1.47889	0.141927	-0.096762
q112		0							
q1_14		0							
q1151		0							
q1152	1887.38	1	1887.38	7.0915	-9.67875	3.63455	-2.66299	0.008866	-0.185557
q1153		0							
q1_16		0							
Score 2	15421.72	1	15421.72	57.94448	1.15134	0.15125	7.61213	0.000000	0.534706
Score 3		0							
Score 4		0							
Score 5		0							
Score 6		0							
Score 7	5666.40	1	5666.40	21.29055	-1.14784	0.24876	-4.61417	0.000010	-0.313298
Score 8		0							
Error	30340.70	114	266.15						

Key:

Socio demographic characteristics

q1_1 Age

Hospital Group

q121 Hospital A
q122 Hospital B
q123 Hospital C

Nursing categories

q141 Staff nurses
q142 Registered nurses

q1_5 Years of experience
q1_6 Highest qualification
q1_7 Shift
q1_8 Transfer
q1_9 Resigning
q1_10 Work abroad
q112 Children
q1_14 Marital status

Race

q1151 White/European/Caucation
q1152 Black/African
q1153 Indian,

q1_16 Sick leave

Causes of stress outside the work environment

Score 2 Causes Outside the work environment (COWE)

Causes within the work environment (Score 3-8)

Score 3 Organisational function (OF)
Score 4 Task characteristics (TC)
Score 5 Physical working conditions (PWC)
Score 6 Career matters (CM)
Score 7 Social matters (SM)
Score 8 Remuneration, Fringe benefits and Personal Policy (RFP)

Specific Objectives

To determine the following amongst nurses in the Gauteng Province:

- the possible influence of non-work related causes of stress on the experienced level of stress

5.5 THE INFLUENCE OF NON-WORK RELATED CAUSES OF STRESS

In this section, the possible influence of non-work related causes of stress that were perceived, experienced or reported by respondents in the three nursing categories will be examined. The specific calculation/interpretation of the scores regarding the causes of stress outside of the work environment is also explained. Refer to Items 8 – 23 of Scale B (Circumstances and Expectations) of the WLQ. The reported value of each of these items is added per questionnaire, i.e. the output value as reported by the nurses as from Question eight up to Question 23, summed, equals the score for the causes of stress outside of the working environment.

Table 5.10 The interpretation of the score on the causes of stress outside of the work environment

Scale	Causes outside the work environment
Very high	41-80
High	34-40
Normal	16-33

The total of these 15 items of the questionnaire can range from a minimum score of 16 and a maximum score of 80. The scales range from 41 - 80, indicating a 'Very High' level (in red), 34 - 40, a 'High' level (in yellow) and 16 - 33, a normal level (in green) (see Table 5.10).

Table 5.11 Causes of stress outside of the work environment

CAUSES OUTSIDE THE WORK ENVIRONMENT			
	PROFESSIONAL NURSES (N=116)	STAFF NURSES (N=45)	NURSING AUXILIARIES (N=35)
	Frequency	Frequency	Frequency
Maximum score	73	77	48
Median score	28	31	30
Minimum score	17	16	18
	Skewness	Skewness	Skewness
	1.80329516	1.75435301	0.34478228

As illustrated above, it is apparent that all three nursing categories have very close median ratings for causes of stress outside of the work environment (see Table 5.11). Professional nurses had the lowest median score of 28 (Normal score), nursing auxiliaries had a score of 30 (Normal score) and staff nurses had the highest median score of 31 (Normal score). An obvious difference is, however, observed in the maximum scores between the three nursing categories. Nursing auxiliaries reported a much lower score (48) on the causes of stress outside of the work environment. Although this score is still regarded as a 'Very High' score; a significant difference is apparent as professional nurses scored 73 in this category and staff nurses scored 77. The statistical significance should however still be confirmed (see Chapter 6).

5.5.1 CORRELATION OF CAUSES OF STRESS OUTSIDE THE WORK ENVIRONMENT WITH THE PERCEIVED LEVELS OF STRESS

The factors or causes outside the work environment that lead to stress have been compared with the reported and perceived levels of stress for the three nursing categories as a whole and not for occupational groups separately. These findings have been incorporated in the previous section's tables; Table 5.9.c and Table 5.9.d, specific mention of Score 2.

Thus with the comparison, a p-value of 0.000000 has been calculated with an F distribution of 57.94448. The regression coefficient is at 1.15134, Standard Error Rate of 0.15125 and the t-value depicted as 7.61213. A mean square of 15421.72 and Degree of Freedom, in this scenario calculated at 1, can also be reported.

Specific Objectives

To determine the following amongst nurses in the Gauteng Province:

- the possible work-related factors contributing to stress within the work environment on the experienced level of stress

5.6 CAUSES OF STRESS WITHIN THE WORK ENVIRONMENT

The causes of stress within the work environment, as the last section of the questionnaire, forms the foundation of this section and has been subdivided into six subcategories. These six categories all represent the causes of work-related stress within the work environment, which include: organizational functioning, task characteristics, physical working conditions, career matters, social matters and remuneration, fringe benefits and personal policies. A systematic outline thereof amongst the selected registered- and staff nurses and nursing auxiliaries is presented in Table 5.5. However, the interpretation of this outline can only be understood by means of an understanding of the subscales of this particular score. The construal outline is detailed in Table 5.12 below.

Table 5.12 The interpretation of the scores on the causes of stress within the work environment

SCALE	Organisational functioning	Task characteristics	Physical working conditions	Career matters	Social matters	Remuneration, Fringe benefits and personal policy
Very High	2-11	9-34	2-13	3-16	2-16	0-17
High	12-16	35-40	14-18	17-21	17-20	18-22
Normal	17-34	41-69	19-34	22-39	21-34	23-48

Outcomes ranging from ‘Normal’ to ‘Very High’ were observed for all six subcategories of the causes of stress within the work environment. It should be noted that a ‘Very High’ level is represented by a low score, i.e. that unfortunate circumstances existed and expectations were not met. On the other hand, a score of 23 - 48, for example for remuneration, fringe benefits and personal policies, can be regarded as normal, implying satisfaction of circumstances in the

work environment and achievements of expectations. A high level of stress would thus not correlate positively with a high value in this section.

(This section has been left blank intentionally)

Table 5.13 Causes of stress within the work environment

CAUSES WITHIN THE WORK ENVIRONMENT			
	PROFESSIONAL NURSES (N=116)	STAFF NURSES (N=45)	NURSING AUXILIARIES (N=35)
	Frequency	Frequency	Frequency
ORGANIZATIONAL FUNCTIONING			
Maximum score	34	31	34
Median score	16	19	20
Minimum score	2	2	8
	Skewness	Skewness	Skewness
	0.1998868	-0.1686403	-0.0412715
TASK CHARACTERISTICS			
Maximum score	69	69	64
Median score	44.5	43	41
Minimum score	17	17	22
	Skewness	Skewness	Skewness
	-0.314826	0.14552785	0.22753049
PHYSICAL WORKING CONDITIONS			
Maximum score	34	34	34
Median score	20	21	19
Minimum score	4	4	2
	Skewness	Skewness	Skewness
	-0.0096554	-0.4581573	0.04698027
CAREER MATTERS			
Maximum score	39	37	36
Median score	22	22	23.5
Minimum score	9	10	6
	Skewness	Skewness	Skewness
	0.07080949	0.24383142	-0.3351759
SOCIAL MATTERS			
Maximum score	34	34	34
Median score	22	23	22
Minimum score	6	10	11
	Skewness	Skewness	Skewness
	-0.2795961	-0.0763585	0.17341441
REMUNERATION, FRINGE BENEFITS AND PERSONAL POLICY			
Maximum score	44	39	43
Median score	14	16	19
Minimum score	0	0	1
	Skewness	Skewness	Skewness
	0.74218831	0.36237892	0.52693054

Table 5.13 summarizes the six subcategories of the causes of work-related stress within the work environment. As illustrated, task characteristics, physical working conditions, career matters and social matters are regarded as 'Normal' across all three nursing categories according to the median score, as all these subcategories fall within the set limits (Table 5.12). Organisational functioning has a median score indicating a 'Normal' scale for staff nurses (19) and nursing auxiliaries (20). Professional nurses have a subcategory score of 16, which is regarded as 'High'. The mean score for remuneration, fringe benefits and personal policy has been flagged as 'High' for the nursing auxiliaries. Professional nurses and staff nurses, however, reported 'Very High' levels in this instance.

Further analysis (Tables 5.9 c & d) illustrates that the only significant score within these subsets regarding the causes of stress within the work environment is Score 7 (Social Matters). In this subset, a p-value of 0.000010 with an F distribution of 21.29055 was calculated. The regression coefficient is at -1.14784, Standard Error Rate of 0.24876 and the t-value -4.61417. A mean square of 5666.40 and Degree of Freedom at 1 was calculated.

Specific Objectives

In order to achieve the stated aim the objectives will be:

- To compare the levels and factors of stress amongst the different categories of nurses

5.7 COMPARISON AMONGST DIFFERENT CATEGORIES OF NURSES

The comparison of the levels of stress amongst the three nursing categories is the second last objective in this chapter. This objective is reflected by the results of the eight scores of the questionnaire (see List of abbreviations).

5.7.1 THE 95%-CONFIDENCE INTERVAL

Refer to Table 5.14 – 5.16 for the following scores:

- Level of stress
- Causes outside the work environment
- Causes within the work environment (including)
    - Organizational functioning
    - Task characteristics,
    - Physical working conditions
    - Career matters
    - Social matters and remuneration
    - Fringe benefits and personal policies
    - Age
    - Work experience

Table 5.14 The statistical difference between staff nurses and professional nurses

Difference between Group 1 and Group 2	
SCORE	**95% Confidence interval**
1	(-11;4)
2	(0;6)
3	(-1;4)
4	(-6;3)
5	(-2;3)
6	(-3;3)
7	(-2;3)
8	(-1;5)
Age	(-8;2)
Years of Experience	(-9;-3)

Key:

Group 1 = Staff Nurses

Group 2 = Professional Nurses

The incidence of the stress-related outcome between staff nurses and professional nurses shows a statistically significant difference between the two groups in terms of years of work

experience, professional nurses reporting a considerable number of years' work experience more than staff nurses. Score 2 (causes of stress outside of the work environment), although not statistically significant illustrates a tendency referring to the positive correlation between the causes of stress outside the work environment between staff nurses and professional nurses (see Chapter 6).

Table 5.15 The statistical difference between staff nurses and nursing auxiliaries

Difference between Group 1 and Group 3	
SCORE	**95% Confidence interval**
1	(-9;9)
2	(-3;6)
3	(-6;1)
4	(-5;6)
5	(-4;5)
6	(-4;4)
7	(-4;3)
8	(-6;2)
Age	(-7;2)
Years of Experience	(-1;7)

Key:

Group 1 = Staff Nurses

Group 3 = Nursing Auxiliaries

The information in Table 5.15 reflects no significant results regarding the various scores, age and years of experience between that of the staff nursing respondents or nursing auxiliaries. Statistically, there are no tendencies.

Table 5.16 The statistical difference between professional nurses and nursing auxiliaries

Difference between Group 2 and Group 3	
SCORE	**95% Confidence interval**
1	(-5;12)
2	(-5;12)
3	(-7;0)
4	(-3;6)
5	(-3;3)
6	(-3;3)
7	(-4;2)
8	(-7;0)
Age	(-1;7)
Years of Experience	(2;10)

Key:

Group 2 = Professional Nurses

Group 3 = Nursing Auxiliaries

Table 5.16 illustrates a significant result in the years of work experience. In this instance, nursing auxiliaries have notably less years of work experience than professional nurses. It should be noted that a tendency also exists between these two nursing categories in terms of Score 3 (the organisational function) and Score 8 (remuneration, fringe benefits and personal policies).

5.7.2 STATISTICA

Below is the Univariate Tests of Significance for the Level of Stress or Score 1 regarding the four best sub-sets according to Statistica (a statistical program used by the Department of Biostatistics of the applicable tertiary institution).

Table 5.17 R^2 selection model

R^2 selection model					
Effect	**SS**	**Degree of freedom**	**MS**	**F**	**P**
Causes outside the work environment (Score 2)	14854.09	1	14854.09	49.48103	0.000000
Social matters within the work environment (Score 7)	4908.12	1	4908.12	16.34963	0.000102
Highest qualification (q1_6)	2228.96	1	2228.96	7.42496	0.007559
Name of Hospital (q1_2)	1973.83	1	1973.83	6.57511	0.011784

5.7.3 THE REG PROCEDURE AND R-SQUARE SELECTION METHOD

With dependant variable – score 1 (Level of stress)

R^2 finds the best combinations of predictors among all possible 1 predictor models, then among 2 predictor models, etc., where 'best' means 'highest R^2'.

Mallow's Cp statistic and MSE (Mean square error) was requested. The 'best model' can be defined as that which has a small value of Cp, which is also close to p (the number of parameters in the model, including the intercept). The small Cp indicators precision, small variance in estimating the population regression coefficients. With Cp small and approximately equal to p. The model should fit the data well, and adding additional predictors should not improve precision much. The reader should however be reminded that only the p-value will be used for the purposes of this study due the skewness of the results.

Table 5.18 REG Procedure

REG Procedure

Number in Model	R-square	C(p)	MSE	Variables in Model
1	0.3430	23.7648	394.96671	Causes outside the work environment (Score 2)
2	0.4382	6.5317	340.82001	Causes outside the work environment (Score 2), Social matters within the work environment (Score 7)
3	0.4796	0.1571	318.57580	Causes outside the work environment (Score 2), Social matters within the work environment (Score 7), Highest qualification (q1_6)
4	0.4982	-1.5912	310.06486	Causes outside the work environment (Score 2), Social matters within the work environment (Score 7), Name of Hospital (q1_2), Highest qualification (q1_6)

(This section has been left blank intentionally)

5.7.4 THE CORR PROCEDURE

Table 5.19 Spearman Correlation Coefficient
Prob > /r/ under HO: Rho = 0

Spearman Correlation Coefficient		
Variables		
Score	Score	P
Level of stress 1.00000	Causes outside the work environment 0.61668	< .0001
Level of stress 1.00000	Work-related causes -0.34574	< .0001
Level of stress 1.00000	Task characteristics -0.35448	< .0001
Level of stress 1.00000	Physical work environment -0.30833	< .0001

Specific Objectives

To determine the following amongst nurses in the Gauteng Province:

- the methods of coping utilised to deal with job-related stress

5.8 METHODS OF COPING

The methods of coping utilised by the three nursing categories in dealing with the demands of work-related stress have been listed as an objective of this study and were incorporated in the socio-demographic section of the questionnaire in the form of an open ended question. It is important to note that coping forms part of the model of stress used for this research study (*cf* Cox, 1978:18). The findings obtained are displayed in Table 5.20 below.

Table 5.20 The reported coping methods of respondents

COPING METHOD	PROFESSIONAL NURSES (N=116)		STAFF NURSES (N=45)		NURSING AUXILIARIES (N=35)	
	N	%	N	%	N	%
SUBSTANCES						
Alcohol	2	1.98	1	2.56		
Coffee	1	0.99	1	2.56		
Food	3	2.97			1	3.57
Medication	1	0.99	1	2.56		
Smoking	1	0.99				
CONVERSATION						
Pray	2	1.98			2	7.14
Talk to a psychologist	1	0.99				
Talk to colleagues/someone & ask for help	8	7.92	9	23.05	5	17.86
Talk to family/friends & spend time with them	11	10.89	3	7.69	1	3.57
ACTIVITIES						
Auditory stimulants	1	0.99				
Camping	1	0.99				
Domestic chores	1	0.99			1	3.57
Physical activity	3	2.97	1	2.56		
Resting/sleep/relaxing	2	1.98				
Shopping/going out	5	4.95				
Spending time with animals/pets	1	0.99				
Warm bath/shower					1	3.57
Yoga/Meditation/Reflexology	1	0.99			1	3.57
Dancing	1	0.99				
Gardening	2	1.98			1	3.57
Hobbies	2	1.98				
Reading	3	2.97	1	2.56		
Singing	1	0.99				
WORK-RELATED FACTORS						
Holiday/take a day off/put in leave	3	2.97				
Separate work & social life	1	0.99				
Stay away from work			1	2.56		
Work overtime/work harder					1	3.57

The answers to this open-ended question varied in method, were incoherent and even unrelated as emotions and statements were provided instead of methods used. In total, the answers to this question were grouped into 55 responses. The amount of applicable responses however totalled 27. Twenty-seven nurses (15 [12.93%] professional nurses, six [13.33%] staff nurses and six [17.14%] nursing auxiliaries) did not answer this question.

As illustrated in Table 5.20, it is clear that the responses of all nurses were scattered between the various types of answers. The blank/grey highlighted cells were not a response from any of the nurses within a specific category. The four categories of grouped answers relevant to this question are as follows: the use of substances, conducting of conversations, rolling out of activities as well as and including factors done in the context of the work environment.

The most common method of coping, over all three nursing categories, is that of talking to colleagues/someone and asking for help. Eight (7.92%) professional nurses indicated that conducting a conversation with colleagues or another individual while perhaps also asking for help was regarded as one of their highest-ranking coping measures, along with talking to family and or friends and spending time with them. Nine (23.05) staff nurses reported that they coped by means of communicating with colleagues, while only 5 (17.86%) nursing auxiliaries fell into this response category. Another coping method used by numerous professional nurses is that of shopping or going out. See Table 5.20 for a summary of other responses.

5.9 RECOMMENDATIONS

The final objective within this research study is the formulating of recommendations regarding measures that can be implemented by organisations to deal with work-related stress as perceived and reported by professional nurses as well as staff nurses and auxiliary nurses working in private hospitals in the Gauteng Province.

5.10 SUMMARY

The leading work-stress model for this research study, Interactional/transactional model (Cox, 1978:18), hypothesises that high levels of stress occur through the existence of a particular association or dynamic system of transactions between the individual and his/her environment (Folkman & Lazarus, 1986:110; Folkman et al, 1985:993; Cox, 1978:18) (see Figure 2.1). On the basis of this model, it can be seen that the abovementioned data measures the same type of

characteristics, have similar categories and are applicable for comparison in the field of nursing.

With this model, the aims and objectives along with the selected questionnaire, an incorporated socio-demographic section and preset WLQ, were used to determine the descriptive statistics. Medians and percentiles for continuous data and frequencies and percentages for categorical data were calculated per nursing category, all incorporated in a 95% confidence interval.

The results do, however, not suggest that the 196 nurses, who participated in this study, differ greatly from other nurses or similar research studies. This claim is substantiated by literature (Heyns, Venter, Esterhuyse, Bam & Odendal, 2003:80). Though this study is flawed in its small-scale nature the findings do suggest, however, that stress within any given organisation cannot be incidental to that of other research conducted on comparable samples within this field.

Furthermore, the results of this study suggest that the hospital nurses within the selected private hospital group represent a mixed or heterogeneous population with respect to the variables related to stress. The analysis revealed that the three nursing categories (professional nurses, staff nurses and nursing auxiliaries), experienced unique though non-significant levels of stress. The only noteworthy difference that can be emphasized is that of nursing auxiliaries' reported score of 19 for the remuneration, fringe benefits and personal policy sub-category.

CHAPTER 6

INTERPRETATION OF RESULTS

6.1 INTRODUCTION

Following the presentation of the results of this study in Chapter 5, the results will be interpreted in the current chapter. The medians and percentiles provided in Chapter 5 will serve as backdrop for the mentioned interpretation. It is of importance to note that statistical significant results will be explained while non-significant results will only be mentioned briefly.

The structure of this chapter will also be similar to that of Chapter 5 in order to decrease or minimize possible confusion for the reader and ascertain the findings within the preset context of the previous chapter. The discussion regarding the contribution of socio-demographic data to the level of stress will form the initial point of focus. Thereafter the causes of non-work related levels of stress, causes of stress within the work environment, comparison amongst different categories of nurses and methods of coping would be discussed in this particular order. Throughout a comparison with the level of stress will be noted. The recommendations will be made and conclusions drawn as a result of the outcome of the interpretation in the subsequent chapter, Chapter 7.

6.2 THE SOCIO-DEMOGRAPHIC CHARACTERISTICS

The question that arises when this objective, as stated above, are at stake; is the relation between a set of data or two and more continuous variables in this regard the socio-demographic characteristics of all three nursing categories with that of their perceived level of stress. In more specific terms with the level of stress (predictor variable) as known variable the researcher will be able to predict the relationship between that of their socio-demographic characteristics (response variable) or the mere contribution to the level of stress. Therefore the socio-demographic factors more prone to relate to an increase in the level of stress will be made known.

With this information as backdrop the reader's attention can be focused on Table 5.1-5.6 within Chapter 5. As a product of these depicted results all socio-demographic data including and limited to gender, amount of sick leave taken over a 12-month period, female/male with or without children, marital status, age, years of experience,

type of hospital, ward or division, highest qualification obtained, type of shift allocated to, transfer-, resignation- and relocation status have all been marked as non-significant results regarding level of stress. Thus meaning that not one of the variables as stated above correlated significantly with the perceived level of stress as reported by all three nursing categories.

A characteristic that can perhaps be highlighted in this regard is the type of ward/division. Results in this study is not suggestive or a clear indicator for an increased levels of stress. This contradicts the outcome of other studies that indicated a significant difference between the levels of stress of nurses in a general ward to that of a psychiatric ward nurse, with the later reporting higher level of stress (Muscroft et al, 1998:1320). In conjunction a similar study indicated that younger age correlated with high levels of stress (Kennedy et al, 1997:28)

Race with specific reference to Black/African nurses was the only socio-demographic indicator/moderator that proofed to be significant with a p-value of 0.008866 according to the Univariate Test of Significance. Therefore a cut-off level for statistically significance with the interpretation of this p-value suggests that a possible significant relationship can coincide between black/African nurses and the level of stress. This can be viewed in correlation with the current racial outlook within South Africa.

Although the health system remained female dominated it was predominately white in the past (Mafalo, 2005/2006:15). South Africa was also better known for its historical distortion of racial disproportion. As time passed this issue became a matter of legislation. Nursing, as it exists today however, was also not excluded and is currently more at balance with Governments equality legislation compared to a number of years ago. Though this legislation is not yet followed through research states that in totality the disproportionate race ratio is still giving rise to racial preference which influences employment thus resulting in feelings of inadequacy, anger and hatred; all affecting the individuals' perceived levels of stress (Geyer, 2004:35).

6.3 NON-WORK RELATED CAUSES OF STRESS

A combination of non-workrelated causes of stress as well as workrelated causes of stress are recognised as important contributing factors that influence the level of stress experienced by employees. The median score of 28-30 (see Table 5.11) of the research group falls within the "Normal" range (see Table 5.10) and suggests that the research participants do not experience a high frequency of non-workrelated stressors.

However the Univariate Test of Significance states a p-value of 0.000000. With this p-value below the cut-off of 0.05 and even below the low level of 0.01 a result of this nature, meaning a value of 0.000000, in this context can be called highly statistically significant. Though with a slight variance the Spearman Correlation Coefficient (see Table 5.19) concurs with such a p-value as a value of <0.0001 is declared. Thus indicating that the non-work related causes of stress is found to be statistically highly significant when correlated with the level of stress.

Not only is the result, as stated above, highly statistically significant but can also be drawn in parallel with previous research. Research indicated that non-workrelated causes of stress can result in a spill over effect, thus meaning if a lack of support is received at home dual career problems will evolve along with subsequent amount of stress (European Agency, 2002:5).

6.4 CAUSES OF STRESS WITHIN THE WORK ENVIRONMENT

The interpretation of the causes of stress within the working environment will be presented in this section. As previously mentioned these causes incorporate six subcategories.

The first value or sub category denotes the incidence of organizational functioning possibly leading to or contributing to the causes of stress within the work environment. The median score of 16-20 (see table 5.13) falls within the 'Normal' to 'High' range (see Table 5.12), which indicate that the expectations and needs of the participants with regard to participation in decision making of the organisation and feedback from management are satisfactory.

The Spearman Correlation Coefficient (see Table 5.19) produced a p-value of <0.0001. This finding is however not confirmed with the Univariate Test of Significance. These conflicting findings needs to be further investigated to clarify the influence of organizational functioning on the level of stress of the research participants.

It has been suggested previously that an overall positive perceived organisation would relate not only to a decrease in perceived level of stress but also less reports of ill health (Cox et al, 1991:12; Cox et al, 2000:69). The contrary has been documented as well: if a nurses perceive an organisational structure as a threat not only to his/her individual freedom but also to autonomy and identity a high level of stress will be evident (Cox et al, 1992:220).

Two other possible causes, that of task characteristics and physical working conditions both, have a median score of 'Normal' (see Table 5.13 and 5.12). Although the Spearman Correlation Coefficient suggest that a significant correlation between these two variables and level of stress (a p-value of <0.0001) these findings are however not corroborated by the Univariate Test of Significance (see Table 5.19).

When compared to studies alike high levels of stress show a relationship between an increase in work demand as well as a poor work environment. These studies in meticulously show that targeting particular individuals or groups will be of limited use without also addressing the general work environment (Kennedy et al, 1997:28).

When career matters are concerned no flag can be raised as both the calculated median (see Table 5.13) and the p-value remains non-suggestive. However, the lack of expected career matters have well been classified as a source of stress amongst nurses, in previous research, in particular with organisations which emphasises the relationship between career development and competence or worth (Cox et al, 2000:71).

The a median score of 22-23 (see table 5.12) on Social matters, as a subcategory of the causes of stress within the work environment, falls within the 'Normal' range of scores. The p-value though in this incidence has been found to be <0.05, in mere fact

0.000010 according to the Univariate Test of Significance. This indicates that social matters correlate statistically significantly with the level of stress. It is of importance to note that an association that is statistically proofed significant does not in mere fact implicate a sourced relationship; it only indicates that further investigation to the existence of such a relationship is deemed necessary. The Spearman Correlation Coefficient also supports the finding of a significant relationship between level of stress and social matters in the work environment. This finding points to the fact that participants who are dissatisfied with the social interaction and support in their work environment experience higher levels of stress. This is consistent with previous research (Kennedy et al, 1997:28).

With regards to remuneration, fringe benefits and personal policies a median of 14-19 was obtained across al three nursing categories. This is indicative of a 'Very high' to 'High' score. Although the median score indicates that participants are dissatisfied with their remuneration, fringe benefits and conditions of employment, the relationship between this variable and level of stress was not significant. Therefore it does not seem as if the dissatisfaction with remuneration, fringe benefits and personnel policies made a significant contribution to the stress experienced by the participants. Other related research however, has shown that salary; fringe benefits and personal policies or regulations are constantly resulting in dissatisfaction amongst nurses and consequently increase their levels of perceived stress (Geyer, 2004:10).

6.5 COMPARISON AMONGST DIFFERENT CATEGORIES OF NURSES

The significance of differences between the three nursing categories with regard to demographic variable, level of stress, and causes of stress will be addressed in this section. The differences found, have been confirmed as significant or true differences between the three nursing categories for the total study population; thus meaning that the sampling variation has been ruled out. In this regard the 95% confidence interval was determined firstly between staff nurses and professional nurses, secondly between staff nurses and nursing auxiliaries and lastly between professional nurses and nursing auxiliaries.

In this regard professional nurses statistically had more experience than staff nurses as represented by the 95% confidence interval stipulating (-9:-3) (see Table 5.14). To

add causes of stress outside the working environment has statistically been suggested to have a bigger influence on professional nurses as compared to staff nurses though to a narrow margin, (0:6) has been stated as the 95% confidence interval (see Table 5.14).

The results suggests that with regards to remunerations, fringe benefits and personnel policies nursing auxiliaries are statistically effected more by this subcategory of causes of stress within the work environment when compared to professional nurses, (-7:0)(see Table 5.16).

Organisational functioning on the other hand, when comparing differences between nursing auxiliaries and professional nurses, demonstrate that the initial mentioned nursing category seems to be more effected statistically. The 95% confidence interval in this regard is represented by (-7:0) (see Table 5.16).

6.6 METHODS OF COPING

Due to the number of possible answers, obtained from the open-ended question regarding coping (see Appendix G or H, question 1.16) within the socio-demographic data, this part of the data was not incorporated into the model as subsets for calculation of statistical significance. As the emphasis was on the level and causes of stress and not coping as a main hypothesis the statistical significance or non-significance for that matter will no be interpreted. However the highest frequencies reported in Chapter 5 will be compared to that of previous research findings.

Firstly the most prevalent coping method mentioned in the previous chapter by the nursing respondents were simply that they were talking to colleagues and asking for assistance. This was the response most frequently reported by all three nursing categories. A total of 11 (10.89%) professional nurses also added that they prefer to talk to family or friends while spending time with them. Between talking to colleagues and family previous research also demarcated the immediate work group as the primary source of support (McGrath, Reid & Boore, 2003:562). A large number of respondents cited the primary source of support as a partner, family or friend. McGrath and his co-authors (2003:562) suggested that nurses for whatever

reason, be it confidentiality, ethical restraints or otherwise, do not knowingly burden their families with their work-related stress.

In correspondence to other research studies performed talking to colleagues are generally known as the most used coping strategy (Callaghan et al, 2000:1519; Muscroft et al, 1998:1321). However smoking, using drugs or other medicinal substances in excess and consuming of alcohol were not found to be significant in this current investigation as only 6 nurses in total reported these mentioned substances as a means of coping with their stress. Other coping strategies as indicated by Sullivan (1993:593) and mentioned in Chapter 3, namely social support, support the findings of this study while meaningful problem solving, accepting responsibility, positive thoughts, avoidance and food indulgence (Hope et al, 1998:441) did not come forth as significant indicators or tendencies.

Methods that were insignificant included for example shopping or going out, (4.95%) professional nurses, crying, as reported by 3 (7.69%) of the staff nurses and praying and thinking positive thoughts as stated by 2 (7.14%) nursing auxiliaries.

In general to summarise the results of coping methods portrayed within this section can not be stated as statically non-significant or as statically significant in this regard as the structure of the question as well as the extend of the answers did not compliment a statistical backdrop for such an interpretation.

6.7 SUMMARY

With conclusion of this chapter the reader will have a more detailed understanding of the interpretation of the results of this investigation. Therefore the statistical significant results to be highlighted as a product of the interpretation of the results within this study can be summarised in a brief précis accordingly in conjunction with the main and set objectives (see Chapter 1). This summary is stated below:

As a first the contribution of all diverse socio-demographic characteristics to the level of stress only revealed a possible correlation between that of race, in particular Black/African nurses. All other socio-demographic characteristics proofed to be statistically non-significant when compared to the level of stress.

The possible influence of non-work related causes of stress, as a whole, on the experienced level of stress did however portray a strong correlation in this regard. Thus suggesting that non-work related causes of stress would have to be addressed if the level of stress wants to be minimised within the organisation. Though these causes are found outside the work environment action can still be taken within the working environment to address such a scenario. These actions or mere recommendations are to be discussed in Chapter 7.

Causes within the work environment contributing to stress and marked as significant are organizational functioning, task characteristics, the physical working environment itself and social matters. These four subcategories of causes within the work environment indicate that a direct significance can be calculated for the study population when compared to the level of stress as reported by the three nursing categories.

It is further also very important to state to the reader that no statically significant difference or indication that professional-, staff nurses or nursing auxiliaries can be suggested when interpreting the results of this study. Hence this statement it can be concluded that no result currently suggests that a specific type of nursing category can be correlated with the level of stress.

Lastly it is of importance to state that the degrees of freedom have not been discussed within this chapter due to the skewness of the data, the reason being that a relationship can subsequently not be drawn to the standard deviation, which is calculated as a variation around the estimate mean. To the same extend the mean square and F-distribution has also not been considered.

What should be considered from this point forward though would be the associated recommendations of the significant variables calculated. This discussion, along with numerous other limitations and implications are provided in Chapter 7 as conclusion to this study.

CHAPTER 7

CONCLUSION TO INVESTIGATION

7.1 INTRODUCTION

Concluding this research report the researcher will present a summary of the findings and will highlight the significance of this study in the nursing milieu, point out implications for nurses within the South African context and will discuss the possible limitations of this study. Recommendations will also be offered with regard to future research in this field.

7.2 SUMMARY OF STRESS FOR THIS RESEARCH STUDY

Work-related stress is seen as the natural response manifested by individuals being subjected to intense pressure at work over a period of time, short- or long-term for that matter. Many individuals are motivated by the challenge and difficulties posed by normal work demands and react by improving their performance. Meeting those challenges and overcoming the difficulties causes feelings of satisfaction and perhaps relaxation (Devereux, Buckle, & Vlachonikolis, 1999:343). However, when the pressure of the demands at work become excessive and prolonged, individuals may/will perceive a threat to their well-being or interests and as a result experience unpleasant emotions such as fear, anger or anxiety. Furthermore the negative psychological state, with cognitive and emotional components, of work-related stress also affects the health of both individual employees and their organisations. Therefore it is of substantial meaning that a lucid understanding of the entire stress process and its multiple facets is grasped in order to manage work-related stress. This report has been prepared to facilitate a clear understanding of work-related stress amongst nurses in the private sector within the borders of the Gauteng Province.

7.3 THE SIGNIFICANCE OF THE STUDY

This study has captured the multifaceted nature of nurses' reported levels of stress and possible causes within a private hospital group in the Gauteng Province. Unlike some of the other studies, in this field, the questionnaire utilized for the purpose of this research study, combined preset multiple choice questions with an open-ended question, added by the researcher, which allowed the respondents to identify their coping measures relevant to them instead of enforcing a closed question with possible none relevant options.

Furthermore the WLQ, a measuring instrument with proven and well-established psychometric characteristics, was also incorporated into this study to measure. The levels and potential causes of stress Empirical data was thus gathered that can assist to enlighten debates about the nursing state of affairs in South Africa, and in particular related to the stress experienced by nurses in the private sector.

7.4 IMPLICATIONS OF THE STUDY FOR NURSING

Though similar research in the private sector within South Africa could not be found, the nurses in this study did report a level and causes of stress below that of related research amongst the same caring profession (Cox; 1996:26). Indicating that the respondents of this study reported normal levels of stress according to their median scores. There is however some findings that can be utilized, by the management of the selected private hospital group, to lower the nurses' subjective level of stress; improve subsequent working conditions, health and related sickness level to further promote the well-being of nurses employed in their organisation.

Previous research has indicated that nurses subjected to stress have a higher incidence of sick leave and have less job security (Crouch, 2003:24). All this and more is costly to the health service, and potentially debilitating to a private hospital group. These hospitals are profit driven corporate cost centres and can thus not afford to loose nursing personnel, might it be in the form of absenteeism, resignations or transfers, as they are crucial to the service delivery to the health consumer (Leon & Mabope, 2005:34). Occupational stress management programmes are believed to depict an organisation-wide approach that in turn improves employees' absenteeism, levels of stress and job-satisfaction (Van der Hek & Plomp, 1997:135).

Earlier research have revealed that stress have an effect on the quality of nursing care provided (Foxall, Zimmerman, Stanley & Bene, 1990:580). Over the past few years, in South African hospitals, several serious mistakes ascribed the errors made by nurses, for which a few have even been removed from the role due to the fatal effect of their wrongdoing (Mzolo, 2004:30), all of which illustrate a possible correlation with stress as contributing factor. Nurses, who are less stressed, feel supported by their nursing managers and who feel that they have job security, could save patients'

lives and their employers' money (Leon et al, 2005:35). Though the results obtained shows that nurses are not subjected to extreme stressful situation, Nursing managers will still have to incorporate programmes to tackle and relieve work-related stress amongst nurses in order to improve their day-to-day experience and ensure overall quality of service rendered by these nurses on the floor (Van der Hek et al, 1997:137). The recommendations will however be discussed briefly under section 7.6.

7.5 STUDY LIMITATIONS

The results of this study should further be considered in context with its limitations. Not only would the identification thereof facilitate further recommendations but also make way for a possible follow-up research, in this regard but to a bigger extend. In this section the limitations of this study will be discussed briefly with mention made of a possible preventative action plan to be followed in future if required. The limitations mentioned underneath would be with regards to the questionnaire, investigation, results and limitations in general.

7.5.1 QUESTIONNAIRE

The use of self-reporting methods can be regarded as problematic as the reliability of the responses relies heavily on the truthfulness of the answers of the respondent. With this type of method a possibility of exaggerated responses can take place (Van Zyl, 1998:24). Although there was no guarantee whatsoever, to the researcher that all respondents were truthful, the incidence of untruthful responses is reduced when anonymity of responses is guaranteed (Callaghan et al, 2000:1526). A mere suggestion to minimize the effect of such a possible limit in this incidence would be to treat the results with caution (Van Zyl, 1998:25). In order to obtain more significant results a holistic approach can be followed: integration of various investigative measures should be relooked for more feasible and truthful options and answers.

Yet another limitation that possibly affected the quality of the nurses' response is the length of the questionnaire. It was speculated by the personal assistants that the length of the questionnaire in conjunction with the workload of the nurses caused a decrease in the expected questionnaire response rate. As the questionnaire/measuring instrument used for this study has already been designed and formatted in four

different sections the possibility of splitting the questionnaire up in more manageable size. This can however lead to non-significant data if all sections are not completed within a short time period.

Another limitation regarding the questionnaire are that a nursing specific measuring instrument was not used in the current study to assess the causes of work-related stress. A questionnaire designed for mostly any occupational group ignores the fact that different stressors are of cardinal importance within the nursing milieu. The task characteristics and physical work environment of a nurse might differ immensely from that of an attorney. Both can experience very high stress levels but the main cause of such a high level would be difficult to determine with this questionnaire. To explain, if the reader wants to know whether a nurse are experiencing stress as a result of treating AIDS patients for example in ward A, a group of nurses from this ward will have to be compared to a group of nurse from a different ward, ward B – maternity ward. If each is given a copy to complete of the questionnaire in question, the number of variables between ward A and B will have to be minimal in order to statistically define a difference with this questionnaire. An occupation specific questionnaire can perhaps provide more accurate and detailed answers quicker.

If a questionnaire is to be designed in future as a result of this or other studies, a preventative actions plan should be regarded for open-ended questions in the light of a limitation initially. Within the measuring instrument used for this study two open-ended questions in particular caused incorrect, irrelevant and unpractical answers. The questions referred to are both part of the socio-demographic section:

- 1.6 What is your highest qualification?; and
- 1.17 How do you handle your stress?

The results obtained from these two questions complicated the results and might possibly even raise a point of concern regarding the respondents as to the level of honesty while completing the questionnaire. From a statistical perspective analysis of these two questions were not possible and thus of no worth to this investigation.

7.5.2 INVESTIGATION

With the investigation, put through scrutiny in this section, the most obvious limitations identified by the researcher is the relatively low response rate, as indicated in chapter 5, section 5.2. A total of only 33.3% of the estimate sample size could be utilized for the purpose of this research study. The reasons declared therefore are indicated in Figure 5.2. Though no definite percentage can be stipulated, for an adequate response rate and generalization of findings, causes and level of stress within any given organisation cannot be coincidental when compared to that of other research conducted on comparable samples within this field.

The selected population can also be regarded as a limitation as only one organisation with private hospitals within the Gauteng Province was incorporated. This population is very limited, thus meaning that high statistical significant data could not be generalized over the borders of this organisation. Relook of the population should definitely be considered (see section 7.6 for further discussion). By conducting the research in both private as well as provincial hospitals a valued comparison will be obtained. Though this study is flawed by its small-scale nature the findings do suggest, however, that stress within any given organisation cannot be co-incidental from that of other research conducted on comparable samples within this field.

7.5.3 RESULTS

As reported in Chapter 5 the analysis revealed that Skewness of data was present. In the light of this section it has been stipulated that for data, which have a skewed distribution, the loss of information in particular is marked. Furthermore reporting of findings is different and statistical significance has been said to be less.

7.5.4 GENERAL

During the process of data collection resources available for this study were insufficient for any kind of face-to-face contact with the respondents. It was the researcher's perception that added assistance would have possibly increased the response rate of questionnaires received back. Comprehensive funding would have enabled the researcher to budget for research assistants. Furthermore, with the added assistants and a more hands on approach most probable could have assisted and

provided clarity on some of the questions, in particular 1.6 and 1.17, as referred to earlier.

7.6 RECOMMENDATIONS AND CONCLUSION

Nurses in South Africa are confronted on a daily basis with an increased amount of difficulties, foreseen- or unforeseen problems. Nursing shortages, increased workload and a deficient amount of time available to complete objectives are only but a few problems encountered by them (Crouch, 2003:24). Nursing professionals also strive to render care, which generates a sense of humanity with personified characteristics, and convey a service of quality, passion, care and commitment. These multiple and corresponding difficulties place further emphasis on the sources of stress which contribute to professional burnout amongst nursing personnel (Duequette et al, 1994:353). There is a growing trend of growing demands that nurses have to cope with, while the available resources they have to their disposal to effectively deal with the demands are decreasing.

Researchers have proved that the absence of an individual approach, to combat occupational stress, depletes resources either in the form of sick leave, turnover or through the providence of unacceptable coping strategies (Muscroft & Hicks, 1998:1324). A number of researchers hold occupational stress responsible for the increased nursing shortages. During 1996 alone 30 000 nursing personal left the profession (Cotrell, 2001:158). Therefore nursing conditions must improve - if not, the shortage of nurses will continue (Rasekoai, 2006:9).

Based on the findings of this research study, it is recommended that more theoretical research be done in this field in order to develop a comprehensive model specifically designed for nurses. This model should include stress management programmes, contain a section on the ability of a nurse to cope with stress, incorporate dispositional factors and be specific for both the private- and provincial health sector. Race should also be investigated further as black/African nurses appear to have higher stress levels than their non-African counterparts.

The organisation that were selected in the Gauteng province, or mere the private hospital group used within this study, can be advised to consider implementing

programmes in broad terms to manage/cope with stress or even prevent stress amongst this particular group of caregivers, their nurses. Before more is said in this context the reader is reminded that stress management was not regarded as one of the main aims of this study, therefore suggestion would only be given. Focus should be drawn particular on task characteristics, physical working conditions, social matters, organizational functioning, remuneration, fringe benefits and personal policies within the work environment while causes outside the work environment should also not be ignored. Hence the organisations do not act a snowball effect of burnout, employee turnover and decreased levels of service delivery will possibly occur in future. Actions to be implemented in combating work-related stress can consist of various ideas or action plans, all directed and grouped under either the organisation or the individual workers or nurses.

A stress expert once stated that any stress program could be successful depending on how well it was tailored and if it was followed through in a team effort (Jackson, 1997:31). A good plan will have to address the multiple facets of the outcome of this study though in conjunction with an understanding of stress. Examples can include but is not limited to improved recruitment strategies, appropriate and detailed performance management, suitable training including training of soft skills and perhaps management skills (such as delegation and assertiveness), support groups or counselling services, critical incident debriefing and the creation of a motivational and positively enforced work environment. A lot can be done if the above mentioned is taken into consideration. However no intervention can be regarded as successful if follow-up sessions are not done, outcome determined and effect maintained.

A further and final recommendation is a mere reminder to prospective researchers to include nursing students into their population. With this, the fourth nursing category, and stated instrument to be developed, one can only but hope that all actions taken from hereon forward, either as a result of this research study or that to follow, will look after and heal our healers (nurses).

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APPENDIX DOCUMENTS

UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVESITHI YA FREISTATA

Departement Biostatistiek
Fakulteit Gesondheidswetenskappe

31/01/05

Ethics committee

Title of project:

Levels of stress and the causes thereof amongst nurses in private hospitals, Gauteng Province.

Researchers:
N Gibbens

I have checked above mentioned project's protocol and approve of it.

M Nel

Miss M Nel

338 (G31), Bloemfontein, 9300, Republiek van Suid-Afrika, Republic of South Africa,
(051) 4013114/5/6/7 (051) 4012939

UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVESITHI YA FREISTATA

Direkteur: Fakulteitsadministrasie / Director: Faculty Administration
Fakulteit Gesondheidswetenskappe / Faculty of Health Sciences

Research Division
Internal Post Box G40
☎(051) 4052812

E-mail address: gndkhs.md@mail.uovs.ac.za

Mrs H Strauss

2005-02-16

MS N GIBBENS
C/O DR A JOUBERT
SCHOOL OF NURSING
UFS

Dear Ms Gibbens

ETOVS NR 37/05
RESEARCHER: MS N GIBBENS
PROJECT TITLE: LEVELS OF STRESS AND THE CAUSES THEREOF AMONGST NURSES IN PRIVATE HOSPITALS, GAUTENG PROVINCE.

You are hereby informed that the Ethics Committee approved the above-mentioned study during their meeting held on 15 February 2005 on condition that:

- ***the CV of the researcher is submitted***
- ***a sentence is added to the permission letter to Netcare, asking permission to publish the results in this study.***

Your attention is kindly drawn to the following:

- A progress/final report have to be submitted after completion of the study or within a year after approval of the project
- That all extentions, amendments, serious adverse events, termination of a study etc have to be reported to the Ethics Committee
- These documents have been accepted as complying with the Ethics Standards for Clinical Research based on FDA, ICH GCP and Declaration of Helsinki guidelines as well as the Clinical Trials Guidelines 2000: Dept of Health RSA.

Will you please quote the Etovs number as indicated above in subsequent correspondence, reports and enquiries.

Yours faithfully

For DIRECTOR: FACULTY ADMINISTRATION

MBE 118
PRIVAATSAK X03
BRANDHOF
9324
21 March 2005

TO THE ACADEMIC BOARD OF [redacted]

PERMISSION TO CONDUCT RESEARCH IN [redacted]

1. I, Nadia Gibbens, am currently registered for a master's degree, at the University of the Free State.

2. The title of my thesis is as follows: Levels of stress and the coping thereof amongst nurses in private hospitals, Gauteng Province.

3. Therefore I hereby ask permission to conduct my research study at fiv[redacted]

4. The following five hospitals have been selected for this purpose: [redacted]

5. Find attached declaration form in respect of research to be carried out in [redacted]

6. I hereby also request permission to publish the results of this study without mentioning [redacted] in the publication.

7. Your urgent consideration in this regard is highly appreciated.

Regards,

N. GIBBENS (RESEARCHER)

CHAIRPERSON
ACADAMIC BOARD

21/3/05
DATE

MBE 118
PRIVAATSAK X03
BRANDHOF
9324
21 March 2005

TO WHOM IT MAY CONCERN

PERMISSION TO CONDUCT RESEARCH IN

1. I, Nadia Gibbens, am currently registered for a master's degree, at the University of the Free State.

2. The title of my thesis is as follows: Levels of stress and the coping thereof amongst nurses in private hospitals, Gauteng Province.

3. Therefore I hereby ask permission to conduct my research study at five

4. The following five hospitals have been selected for this purpose:

5. Find attached declaration form in respect of research to be carried out in

6. Your urgent consideration in this regard is highly appreciated.

Regards,

N. GIBBENS (RESEARCHER)

LEVELS OF STRESS AND THE CAUSES THEREOF AMONGST NURSES:
GAUTENG PROVINCE

MBE 118
PRIVATE BAG X03
BRANDHOF
9324

21 March 2005

TO THE RESPONDENT

Study title: Levels of stress and the causes thereof amongst nurses in the Gauteng province
Investigator: Nadia Gibbens, RN

Mrs. Gibbens is a registered nurse studying the levels of stress and the causes thereof amongst nurses in the Gauteng Province. Although the study will not benefit you directly, it will provide information that will enable nursing managers to identify possible measurements that can be implemented by the organisation to reduce stress in nursing. You will be given the opportunity to obtain a replica of the study's findings and recommendations on completion thereof.

The study and its procedures have been approved by the applicable people at [redacted] as well as the review boards at the University of the Free State. The study procedures involve no foreseeable risks or harm to you or your family. The procedure include: (1) completing a demographic data sheet, and (2) responding to a questionnaire about your experience of work and life circumstances.

Participation in this study will take approximately 30 minutes. You are free to ask any questions about the study or about being a subject. Inquiries can be directed to Mrs. Gibbens herself at (cell) 082 71 44 245 or (home) (011) 849-4291.

Your participation in this study is voluntary; you are thus under no obligation to participate. You have the right to withdraw at any time without penalty or ill effects to your relationship with the health care team. The study data will be coded so they will not be linked to your name. Your identity will not be revealed while the study is being conducted or when the study is reported or published. All study data will be collected by Mrs. Gibbens, stored in a secure place, and not shared with any person without your permission.

I have read this consent form, understood it and hereby give voluntary consent to participate in this study. _____ Respondent's signature _____ Date	I have explained this study to the respondent and have sought his/her understanding for Informed consent. _____ Researcher's signature 21/03/2005 Date

VLAKKE VAN STRES EN DIE OORSAKE DAARVAN ONDER VERPLEEGPERSONEEL: GAUTENG PROVINSIE

MBE 118
PRIVAATSAK X03
BRANDHOF
9324
21 Maart 2005

AAN DIE RESPONDENT

Tittel van studie: Vlakke van stres en die oorsake daarvan onder verpleegpersoneel in die Gauteng Provinsie.
Navorser: Nadia Gibbens, RN

Mev. N. Gibbens is 'n geregistreerde verpleegkundige wat tans die vlakke van stres en die oorsake daarvan onder verpleegpersoneel in Gauteng Provinsie bestudeer. Alhoewel die studie u nie direk bevoordeel nie, sal dit wel kardinale inligting oplewer wat die verpleegbestuurders in staat sal stel om moontlike aksies te identifiseer wat deur die organisasie geïmplimenteer kan word om sodoende stres in verpleeging te bekamp/verlaag. U sal wel die kans gegun word om 'n replika van die voltooide studie se bevindinge asook aanbevelings te bekom.

Die studie en meegaande prosedures is reeds goedgekeur deur die toepaslike persone te [redacted] asook die toepaslike panele van die Universiteit van die Vrystaat. Die prosedures van die studie beslaan oor geen voorsiene risikos of benadeling aan u familie nie. Die prosedure sluit die volgende in: (1) voltooiïng van 'n demografiese data lys, en (2) beantwoording van 'n vraelys rakende u ondervinding van werk en lewens omstandighede.

Voltooiïng van hierdie vraelys sal ongeveer 30 minute neem. U is vry om enige vrae te vrae rakende die studie of bloot rakende u as respondent. Navrae kan gerig word aan mev. Gibbens by (sel) 082 71 44 245 of (tuis) (011) 849-4291.

U deelname in hierdie studie is vrywillig; dus is u onder gee verpligtinge om deel te neem nie. U het die reg om enige tyd te onttrek sondrer enige boetes of nadelige effekte teenoor u verhouding met die gesondheidsorg span. Hierdie studie sal gekoddeer word en sal dus nie aan u naam gekoppel kan word nie. U identiteit sal nie bekend gemaak word tydens die studie of selfs tydens publikasie nie. Alle studie data sal deur mev. Gibbens ingeneem word, geberg in 'n veilige area, en nie gedeel word met ander persone sonder u toestemming nie.

Ek het die toestemmings form gelees, verstaan dit en verleen hiermee vrywillige toestemming om aan die studie deel te neem.	Ek het die studie aan die respondent verduidelik en het sy/haar kongruensie vir ingeligte toestemming bevestig.
_____ Handtekening van Respondent	_____ Handtekening van Navorser
_____ Datum	21/03/2005 Datum

UNIVERSITEIT VAN DIE VRYSTAAT
UNIVERSITY OF THE FREE STATE
YUNIVESITHI YA FREISTATA

Dear Colleagues,

Nursing personnel, like yourself, are exposed on a daily basis to an environment with professional and personal stress as you render a serves to both the health care consumer and the system through which health care is being provided.
The implication of abovementioned can directly manifest in the lack of optimal physical and psychological well being, affect your family and loved ones in a negative manner, portray a lack of continuity in patient care and have a direct influence on your employer.

Therefore early identification is of cardinal importance to all of us, and primary prevention a striving factor for the future. As a result of previous mentioned factors I decided to contribute to the improvement of the nursing profession by means of this research study in order to identify and improve factors where possible.

You can assist by completing the provided questionnaire. **A few instructions will follow**:

1. A completion time of 20-25 minutes are required to complete the provided questionnaire.
2. All assistant nurses should write their post title in by hand in question 1.4:

1.4 What kind of post do you occupy: Assistant nurse	Enrolled nurse	Registered nurse

3. All assistant nurses should complete amount of years experience in 1.5 on the questionnaire.
4. Male nurses should also complete question 1.12 as no discrimination was intended.
5. All questionnaires should be completed within one day after receipt, as far possible.
6. Information provided by you, as respondent, must not be discussed with any other individual and will remain confidential at all times.
7. Completed questionnaires must be sealed in the brown envelope provided along with the informed consent form.
8. Please note that it is not necessary to print your name on the consent form.
9. Sealed envelopes should be posted in the research box provided at matron L. Nel's office not later than 10h00 the following day.
10. Completed forms of nursing personnel totals (per ward/unit) should also be posted in the research box provided.
11. Thank you for your cooperation!!!

Yours sincerely,
N.GIBBENS
RESEARCHER: RN

UNIVERSITY OF THE FREE STATE

SCHOOL OF NURSING

RESEARCH STUDY: LEVELS OF STRESS AND THE CAUSES THEREOF AMONGST NURSES IN THE GAUTENG PROVINCE

[ ][ ][ ] 1-3

SOCIO DEMOGRAPHIC DATA

Please write your particulars in the appropriate space provided or make a cross on those particulars which are applicable to you:

Office use

1.1 Age [ ][ ] [ ][ ] 4-5

1.2 Name of Hospital _____ [ ] 6

1.3 Name of division/ward [ ] 7

1.4 What kind of post do you occupy [ ] 8

Registered nurse	Enrolled nurse	Nursing Auxiliary

1.5 How many years experience do you have as a registered/enrolled nurse _____ [ ][ ] 9-10

1.6 What is your highest qualification _____ [ ][ ] 11-12

1.7 Which shift do you work at present [ ] 13

Day: Irregular hours	Day: Regular hours

1.8 Have you been transferred from one of the following during the past year [ ] 14

Another hospital/clinic	Ward	Not applicable

1.9 Are you in the process of resigning Yes [ ] No [ ] [ ] 15

1.10 Are you at present busy organizing work for yourself abroad Yes [ ] No [ ] [ ] 16

1.11 Gender Male [ ] Female [ ] [ ] 17

1.12 Child status	With children	Without children		18
1.13 What is your Marital status				19
Married	Unmarried or single	Divorced or separated	Live together	
1.14 Race _____				20
1.15 How many days sick leave have you taken during the past 12 months _____				21-22
1.16 How do you handle your stress _____				23-24
_____				25-26
_____				27-28
_____				29-30
_____				31-32

EXPERIENCE OF WORK AND LIFE CIRCUMSTANCES QUESTIONNAIRE

This section contains questions on feelings that you may have experienced in your life. It consists of two parts. The first part deals with your experiences in your work and the second part with your circumstances and expectations. Read the specific instructions and then answer all the questions.

EXPERIENCE OF WORK: SCALE A

Example:

HOW OFTEN IN YOUR WORK DO YOU FEEL……	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**
restless?					X

Based on this example the deduction can be made that the person feels restless virtually always.

NOW ANSWER QUESTIONS 1 – 40 ON THE QUESTIONNAIRE.

	HOW OFTEN IN YOUR WORK DO YOU FEEL……	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**	**Office use**
1	as if you are coming up against a wall and simply cannot make any progress?						33

LEVELS OF STRESS AND THE CAUSES THEREOF AMONGST NURSES:
GAUTENG PROVINCE

	HOW OFTEN IN YOUR WORK DO YOU FEEL……	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**		
2	afraid, not knowing of what exactly?							34
3	uncertain (unsure, doubtful)							35
4	worried?							36
5	that your views clash with those of another person?							37
6	that you are experiencing conflict?							38
7	bored?							39
8	irritated (annoyed)?							40
9	that you have no confidence in yourself?							41
10	that you depend too much on the help of others?							42
11	alone?							43
12	that you would like to attack another person?							44
13	that you merely accept things as they are?							45
14	that you are disturbed whenever you work hard at something?							46
15	that you are losing control of your temper?							47
16	that no-one wants to support you ?							48
17	that your work situation compares unfavourably with those of others?							49
18	despondent (cheerless, down)?							50
19	that you have broken some rule or other ?							51
20	inferior (no self-confidence, unimportant)?							52
21	that someone and/or a situation is annoying you terribly?							53
22	guilty?							54
23	downhearted?							55
24	fearful?							56
25	that you can do nothing about a situation?							57
26	aggressive (want to hurt someone/break something)?							58
27	that you are getting sad?							59
28	overburdened (too much work /responsibilities)							60

	HOW OFTEN IN YOUR WORK DO YOU FEEL……	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always	
29	angry?						61
30	afraid without knowing whether you are afraid of a particular person /or situation)?						62
31	not exactly sure how to act?						63
32	that you are having trouble concentrating since you are worried about something?						64
33	that you have no interest in the activities around you?						65
34	that you need assistance continuously?						66
35	that you do not wish to participate in anything?						67
36	afraid of colleagues and/or superiors?						68
37	that it seems as if you will never get out of this mess?						69
38	dissatisfied?						70
39	that you are tearful (weeping, sorrowful) ?						71
40	that you have too much responsibility and too many problems?						72

CIRCUMSTANCES AND EXPECTATIONS

This part contains questions on the nature of your circumstances and on your expectations.

CIRCUMSTANCES: SCALE B

Questions are asked about the way you feel about important circumstances within and outside your work. Indicate below Scale B how often particular circumstances occur by making a cross in the applicable block.

Example 1:

HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT…….	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always
there is not sufficient opportunity for social intercourse?					X

Based on this example the deduction can be made that the person feels that there is virtually always insufficient opportunity for social intercourse within the organization.

Example 2:

HOW OFTEN DO YOU FEEL IN YOUR EVERYDAY LIFE THAT…….	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**
there is not enough time for sport and recreation?		X			

Based on this example the deduction can be made that the person feels that he/she only sometimes does not have enough the time for sport and other recreational activities.

NOW ANSWER QUESTIONS 1 – 23

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT…….	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**	
1	the organization as a whole does not function satisfactorily(for example owing to poor organization, little confidence in employees and/or incorrect leadership)						73
2	you are dissatisfied about the nature (content) of your work (for example it is not interesting and challenging or it does not correspond with your aptitudes)?						74
3	you encounter one or more of the following: considerable noise, high/low temperatures, odours, gases, poor lighting, crowding of people and /or any other problems that concern your physical working conditions?						75
4	situations in which you find yourself, have a negative effect on the progress and development of your career (for example your weaknesses are over-emphasized and/or you find it difficult to progress to higher posts?)						76
5	you find it difficult to deal with social matters (such as socializing in a group and/or maintaining good interpersonal relations)?						77

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT…….	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always	
6	you are dissatisfied with one or a few of the following: pension, medical and housing aid, bursaries, achievement bonuses, group and other insurance, salary and/ or any other aspects of your remuneration package?						78
7	you are dissatisfied with one or more of the following: working clothes, working hours, conditions of employment, communication channels with respect to grievances and complaints , rules regarding transfers, termination of employment and/or any other regulations involving personnel matters?						79

Note that the following questions deals with circumstances of your daily life.

	HOW OFTEN DO YOU FEEL IN YOUR EVERYDAY LIFE THAT…….	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always	
8	family crises (for example death, illness and strife) have an adverse effect on your life?						80
9	financial obligations(for example the payment of a house loan) make life difficult for you?						1
10	the phase of life in which you find yourself currently (for example midlife or retirement) makes life difficult for you?						2
11	the general economic situation in the country (for example inflation) makes life exceptionally difficult for you?						3
12	rapidly changing technology poses a problem for you?						4
13	facilities (for example water laid on, electricity) at home are unfavourable?						5
14	social situations with friends and/or relatives are difficult to handle?						6

	HOW OFTEN DO YOU FEEL IN YOUR EVERYDAY LIFE THAT……	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always	
15	your status among relatives and friends sometimes causes you embarrassment?						7
16	your health does not allow you to do what you would like to ?						8
17	your background (i.e. your past life /where you come from) causes you embarrassment?						9
18	your home life is affected adversely owing to the fact that you have to spend much time on activities at work?						10
19	problems with transport make life difficult for you?						11
20	there is something wrong with your spiritual life?						12
21	your own views differ from those of other people?						13
22	inadequate provision is made for accommodation(for instance your housing is not suitable)?						14
23	there are too few recreational facilities (for example golf or squash)?						15

EXPECTATIONS: SCALE C

Questions are asked about the extent to which you feel that your expectations with regard to your job are realized. Indicate on the scale below how often the expectations referred to in the specific questions are realized.

Example:

HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT ……..	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always
you are able to talk to your colleagues?		X			

Based on this example one can deduce that the respondent only sometimes feels that she can talk to her colleagues. Note also that, unlike in the case of the previous questions, a low score (virtually never) represents a negative trend while a high score (virtually always) represents a positive trend.

NOW ANSWER QUESTIONS 1 – 53 ON THE QUESTIONNAIRE.

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT ……..	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always		
1	you receive recognition for what you do?							16
2	regulations regarding personnel matters (for example concerning working hours, conditions of employment and work clothes) reflect well on the organization?							17
3	you can get work assigned to you done in time?							18
4	you are able to perform your tasks without having to be on your feet for long periods, having to lift heavy objects, having to bent/crouching and /or in an uncomfortable position?							19
5	you are able to assume full responsibility for all you do?							20
6	you can perform all your tasks without the nature of your work and your actions endangering other people's safety/lives and/or having a negative effect on the nature/quality of their lives?							21
7	your salary is market-related, in other words it compares well with what persons with similar qualifications and experience earns?							22
8	you are able to function independently?							23
9	your necessary job equipment(for example stationary, tools, electronic and laboratory equipment) is always available?							24
10	you are exposed to the necessary training courses?							25
11	all your good qualities are used?							26
12	you are satisfied with your promotion?							27
13	your fringe benefits(for example housing subsidy) ensure your support and security?							28
14	you have status(to feel important)?							29

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT ……..	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**	
15	you are able to get along with your supervisor?						30
16	the personnel regulations(for example regarding working clothes and working hours) satisfy your needs?						31
17	you can perform your tasks without endangering your own safety as a result of the nature of your work and the actions required from you?						32
18	you are included in decision making that concerns you?						33
19	you can perform your tasks without coming in conflict with other people or straining your relations with other people as a result of the nature of your work?						34
20	the instructions that you receive are in keeping with previous instructions(in other words that you do not receive contradictory instructions)?						35
21	you can trust your supervisors in all circumstances?						36
22	facilities(such as toilets and kitchens) meet your needs?						37
23	you have sufficient job equipment at your disposal?						38
24	physical working conditions(for example lighting and temperature) are satisfactory?						39
25	your fringe benefits(for example housing subsidy) supplement your salary adequately?						40
26	your abilities and skills are developed and extended?						41
27	you have sufficient knowledge and information available to do your work?						42
28	your tasks can be performed without demanding your continued and intense concentration?						43

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT ……..	**1. Virtually never**	**2. Sometimes**	**3. Reasonably often**	**4. Very often**	**5. Virtually always**	
29	the nature of the furniture and decorations in your working area creates a pleasant working environment?						44
30	you have good relations with your colleagues?						45
31	your colleagues consider you successful and/or hard-working?						46
32	your salary is adequate to motivate you to work hard at all times?						47
33	you are making progress?						48
34	your job equipment(for example computer ,stationary and tools) are in a working order?						49
35	personnel regulations(for example those regarding transfers and working hours) contribute to your satisfaction?						50
36	your input is adequately remunerated?						51
37	your physical working conditions(for example lighting and office space) are adequate for the type of work that you do?						52
38	you are happy with the nature of your fringe benefits(housing, pension and medical aid)?						53
39	you are able to perform your duties without time playing too big a role?						54
40	the way in which things are organized contributes to your good achievement?						55
41	management believes its employees to be hardworking and/or reliable?						56
42	you have enough work to keep you busy?						57
43	the requirements of your job correspond with what you have to offer?						58

	HOW OFTEN DO YOU FEEL IN YOUR ORGANIZATION THAT ……..	1. Virtually never	2. Sometimes	3. Reasonably often	4. Very often	5. Virtually always	
44	the social demands made on you are of such a nature that you easily satisfy them(maintain good relations with others)?						59
45	your good achievements are noticed?						60
46	you are able to display initiative?						61
47	you are able to be involved in different tasks?						62
48	your post is essential and will be retained?						63
49	you find regulations regarding staff matters(for example working hours, working clothes) satisfactory?						64
50	you are able to maintain good relations with your supervisor(s)?						65
51	your potential is used to the full?						66
52	you are able to talk to your supervisor whenever you want to?						67
53	you are able to maintain good social relationships with everybody?						68

THANK YOU FOR YOUR TIME!

UNIVERSITEIT VAN DIE VRYSTAAT
SKOOL VAN VERPLEEGKUNDE

NAVORSINGSTUDIE: VLAKKE VAN STRES EN DIE OORSAKE DAARVAN ONDER VERPLEEGPERSONEEL IN DIE GAUTENG PROVINSIE

[ ][ ][ ] 1-3

SOSIODEMOGRAFIESE DATA

Vir kantoorgebruik:

Skryf asseblief u besonderhede in die toepaslike area voorsien of trek 'n kruisie oor die besonderhede wat op u van toepassing is:

1.1 Ouderdom [ ][ ] [ ][ ] 4-5

1.2 Naam van Hospitaal _____ [ ] 6

1.3 Naam van afdeling/saal _____ [ ] 7

1.4 Watter pos beklee u [ ] 8

Geregistreerde Verpleegkundige	Ingeskrewe Verpleegkundige	Verpleeg assistent

[ ][ ] 9-10

1.5 Hoeveel jare ondervinding het u as verpleegkundige _____

1.6 Wat is u hoogste kwalifikasie [ ][ ] 11-12

_____

1.7 Watter skof werk u tans [ ] 13

Dag: Gereelde ure	Dag: Ongereelde ure

1.8 Is u in die laaste jaar oorgeplaas vanaf een van die volgende [ ] 14

Ander hospitaal/kliniek	Saal	Nie van toepassing

1.9 Is u in die proses om te bedanking Ja [ ] Nee [ ] 15

Ja [ ] Nee [ ] 16

1.10 Is u tans besig om werk vir u in die buiteland te reël

1.11 Geslag Manlik [ ] Vroulik [ ] 17

1.12 Kind status	Met kinders	Sonder kinders		18
1.13 Wat is u huweliksstatus				19
Getroud	Ongetroud of enkellopend	Geskei of vervreem	Bly saam	
1.14 Ras				20
1.15 Hoeveel dae siekverlof het u gedurende die laaste 12 maande geneem				21-22
1.16 Hoe hanteer u stres				23-24
				25-26
				27-28
				29-30
				31-32

DIE ERVARING VAN WERK- EN LEWENSOMSTANDIGHEDE VRAELYS

In die volgende deel word vrae gevra oor gevoelens wat u die afgelope tyd in u lewe ervaar het. Die vraelys bestaan uit twee dele. Die eerste deel handel oor u ervarings in u werk en die tweede deel oor u omstandighede en verwagtings.

ERVARING VAN WERK: SKAAL A

Voorbeeld:

HOE DIKWELS VOEL U IN U WERK ……	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**
rusteloos?					X

Op grond van hierdie voorbeeld kan die afleiding gemaak word dat die persoon byna altyd rusteloos voel.

BEANTWOORD NOU VRAAG 1 TOT 40 OP DIE VRAELYS.

	HOE DIKWELS VOEL U IN U WERK ……	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	**Vir kantoor-gebruik:**
1	dat u voor ‘n muur te staan kom en net nie vorder nie?						33
2	bang maar u weet nie presies waarvoor nie?						34
3	onseker?						35

	HOE DIKWELS VOEL U IN U WERK ……	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
4	bekommerd?						36
5	dat u sieninge bots met die van ‘n ander persoon ?						37
6	dat u konflik beleef?						38
7	verveeld?						39
8	geïrriteerd?						40
9	dat u geen vertroue in uself het nie?						41
10	dat u te veel op ander steun?						42
11	alleen?						43
12	dat u ‘n ander persoon wil aanval?						44
13	dat u dinge maar aanvaar soos dit is?						45
14	dat as u hard aan iets werk, u daarin gepla word?						46
15	dat u beheer oor u emosies verloor?						47
16	dat niemand u wil ondersteun nie?						48
17	dat u werksituasie swak met ander vergelyk ?						49
18	neerslagtig?						50
19	dat u een of ander reël oortree het?						51
20	minderwaardig?						52
21	dat iemand en/of ‘n situasie u erg omkrap?						53
22	skuldig?						54
23	terneergedruk?						55
24	bevrees?						56
25	dat u niks omtrent ‘n situasie kan doen nie?						57
26	aggressief?						58
27	dat u hartseer begin raak?						59
28	oorlaai?						60
29	kwaad?						61
30	bang sonder om te weet of dit vir ‘n spesifieke persoon en/of situasie is?						62
31	nie altyd seker hoe om op te tree nie?						63
32	dat u sukkel om te konsentreer aangesien u bekommerd is oor iets?						64
33	dat u geen belangstelling in aktiwiteite rondom u het nie?						65
34	dat u voortdurend hulp nodig het ?						66
35	dat u aan niks wil deelneem nie ?						67

	HOE DIKWELS VOEL U IN U WERK ……	1. Byna nooit	2. Soms	3. Redelik baie	4. Baie	5. Byna altyd	
36	bang vir kollegas en/of toesighouers ?						68
37	dat dit lyk asof u nooit uit hierdie gemors gaan kom nie ?						69
38	ontevrede ?						70
39	dat u huilerig is ?						71
40	dat u te veel verantwoordelikhede en probleme het ?						72

OMSTANDIGHEDE EN VERWAGTINGE

Hierdie deel bestaan uit vrae rakende die aard van u omstandighede en u verwagtinge.

OMSTANDIGHEDE: SKAAL B

In hierdie gedeelte word vrae gevrae oor hoe u voel oor belangrike omstandighede binne en buite u werk. Dui ten opsigte van elke vraag aan, hoe dikwels sekere omstandighede voorkom deur ‘n syfer van 1 tot 5 teenoor die vraag neer te skryf.

Voorbeeld 1:

HOE DIKWELS VOEL U IN U ORGANISASIE DAT ……	1. Byna nooit	2. Soms	3. Redelik baie	4. Baie	5. Byna altyd
daar nie genoeg geleentheid vir gesellige saamverkeer is nie ?					X

Op grond van hierdie voorbeeld kan die afleiding gemaak word dat die persoon voel dat daar byna altyd nie genoeg geleenthede vir sosiale verkeer binne die organisasie bestaan nie.

Voorbeeld 2:

HOE DIKWELS VOEL U IN U ALLEDAAGSE LEWE DAT ……	1. Byna nooit	2. Soms	3. Redelik baie	4. Baie	5. Byna altyd
dat daar nie genoeg tyd vir sport en ontspanning is nie?		X			

Bogenoemde persoon voel dus dat hy net soms nie die tyd vir sport en ontspanning het nie.

BEANTWOORD NOU VRAE 1 - 23

	HOE DIKWELS VOEL U IN U ORGANISASIE DAT ……	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
1	die organisasie in sy geheel gesien nie na wense funksioneer nie (byvoorbeeld swak organisering, min vertroue in werknemers en/of verkeerde leierskapstyle) ?						73
2	u ontevrede is oor die aard(inhoud) van u werk (byvoorbeeld dat dit nie interessant of uitdagend genoeg is nie?						74
3	een of meer van die volgende voorkom : baie geraas, hoë temperature, stank, swak lig, ‘n opeenhoping van mense en/of enige ander probleme wat betrekking op u fisiese werksomstandighede het ?						75
4	situasies waarin u uself bevind ‘n negatiewe effek op u loopbaanbevordering en ontwikkeling het (byvoorbeeld dat u swak punte voortdurend beklemtoon word en/of dat u moeilik kan vorder na hoërvlakposte)?						76
5	u sosiale aangeleenthede moeilik hanteer (byvoorbeeld om in ‘n groep gesellig te verkeer en/of om goeie interpersoonlike verhoudinge met almal te handhaaf)?						77
6	u ontevrede is oor een of meer van die volgende: pensioen, mediese en behuisingsbystand, beurse, prestasiebonusse, groep- en ander versekering, salaris en/of enige ander aspek wat u vergoedingspak-ket raak ?						78
7	u ontevrede is oor een of meer van die volgende : werksdrag, werksure. aanstellingsvereistes, kommunikasiekanale t.o.v. griewe en klagtes, reëls m.b.t. oorplasings, diensbeëindigings en/of enige ander regulasie betreffende personeelsake)?						79
	Let daarop dat die volgende vrae oor omstandighede in u alledaagse lewe handel.						

	HOE DIKWELS VOEL U IN U ALLEDAAGSE LEWE DAT ……	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
8	familiekrissise(byvoorbeeld dood, siekte en twis) u lewe negatief beïnvloed ?						80
9	finansiële verpligtinge (byvoorbeeld die afbetaal van ‘n huislening) die lewe vir u moeilik maak?						1
10	die fase van die lewe waarin u uself nou bevind (byvoorbeeld die middeljare en/of aftrede) dit vir u moeilik maak?						2
11	die algemene ekonomiese situasie in die land dit vir u moeilik maak?						3
12	die vinnig veranderende tegnologie vir u ‘n probleem skep?						4
13	geriewe (byvoorbeeld watervoorsiening en elektrisiteit) by die huis ongunstig is?						5
14	sosiale situasies met vriende en/of familie moeilik hanteerbaar is?						6
15	u status onder vriende en familie u soms in die verleentheid bring?						7
16	u gesondheid u dit nie toelaat om te doen wat u wil nie?						8
17	u agtergrond u in die verleentheid bring?						9
18	u huislike lewe benadeel word deurdat u baie tyd aan werksaktiwiteite moet bestee?						10
19	vervoerprobleme die lewe vir u moeilik maak?						11
20	u geestelike lewe nie na wense is nie?						12
21	u eie sienswyse verskil met die van ander mense?						13
22	u huisvesting onvoldoende is?						14
23	te min ontspanningsfasiliteite (byvoorbeeld gholf en muurbal) bestaan?						15

VERWAGTINGE: SKAAL C

Vrae word gevra oor hoe u voel, daar aan sekere van u verwagtinge in u werk, voldoen word.
Dui teenoor elke vraag aan hoe dikwels daar aan die spesifieke verwagting waarna verwys word, voldoen word. Gebruik die 1 tot 5 punte skaal.

Voorbeeld:

HOE DIKWELS VOEL U IN U ORGANISASIE DAT …….	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**
u met ‘n kollega kan gesels?		X			

Op grond van hierdie voorbeeld kan die afleiding gemaak word dat die persoon net soms voel dat hy met sy kollegas kan gesels. Let daarop dat anders as met die vorige vrae, ‘n lae telling(byna nooit) ‘n negatiewe tendens en ‘n hoë telling (byna altyd) ‘n positiewe tendens verteenwoordig.

BEANTWOORD NOU VRAE 1 – 53

	HOE DIKWELS VOEL U IN U ORGANISASIE DAT …….	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
1	u erkenning kry vir wat u doen ?						16
2	voorskrifte oor personeelsake(byvoorbeeld werksure, aanstellingsvereistes en werksdrag), ‘n goeie beeld van die organisasie uitdra ?						17
3	u die werk wat aan u opgedra is betyds klaarkry ?						18
4	u take uitgevoer kan word sonder dat u lank op u voete moet staan, swaar voorwerpe moet optel en/of in gebukkende, gehurkde en/of ander ongemaklike liggaamsposisies te moet wees ?						19
5	u volle verantwoordelikheid kan aanvaar vir alles wat u doen ?						20
6	u take uitgevoer kan word sonder dat die aard daarvan en u aksies daaraan verbonde ander mense se veiligheid/lewens in gevaar stel en/ of dit die aard/ gehalte van hul lewe negatief kan beïnvloed ?						21
7	u salaris in ooreenstemming met u markwaarde is, dit wil sê met wat soortgelyke persone met dieselfde kwalifikasies en ervaring verdien ?						22
8	u selfstandig kan funksioneer ?						23
9	u werkstoerusting (byvoorbeeld skryfbehoeftes, gereedskap, elektroniese sowel as laboratoriumtoerusting) altyd beskikbaar is ?						24
10	u aan die nodige opleidingskursusse blootgestel word ?						25
11	al u sterkpunte gebruik word ?						26

	HOE DIKWELS VOEL U IN U ORGANISASIE DAT ……..	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
12	u tevrede is met die bevorderings wat u ontvang ?						27
13	u byvoordele(byvoorbeeld behuisingsbystand) aan u ondersteuning en sekuriteit verskaf?						28
14	u aansien geniet ?						29
15	u met u toesighouer oor die weg kan kom ?						30
16	die personeelvoorskrifte (byvoorbeeld werksdrag en werksure) u behoeftes bevredig ?						31
17	u take uitgevoer kan word sonder dat die aard daarvan en u aksies daaraan verbonde u veiligheid in gevaar stel?						32
18	u deel het in besluitneming wat u raak ?						33
19	u take uitgevoer kan word sonder dat die aard daarvan u in konflik/spanning met ander mense laat kom?						34
20	die instruksies wat u ontvang by voriges aansluit(met ander woorde dat u nie botsende instruksies onvang nie)?						35
21	u onder alle omstandighede u toesighouer kan vertrou ?						36
22	geriewe (byvoorbeeld toilette en kombuis) aan u behoeftes voldoen?						37
23	u oor voldoende werkstoerusting beskik ?						38
24	die fisiese werksomstandighede (byvoorbeeld lig en temperatuur)bevredigend is ?						39
25	u byvoordele(byvoorbeeld behuisingsbystand) u salaris genoegsaam aanvul) ?						40
26	u vermoë en vaardighede ontwikkel en uitgebou word ?						41
27	u oor genoeg kennis en inligting beskik om u taak te verrig ?						42
28	u take verrig kan word sonder dat dit aaneenlopende hoë konsentrasie van u vereis ?						43

	HOE DIKWELS VOEL U IN U ORGANISASIE DAT ……..	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
29	die aard van die meubels en versiering van u werksplek ‘n aangename werksomgewing skep ?						44
30	u goeie verhoudinge met u kollegas het ?						45
31	u kollegas u as suksesvol en/of hardwerkend beskou ?						46
32	u salaris voldoende is om u te motiveer om ten alle tye hard te werk ?						47
33	u vooruitgang maak ?						48
34	u werkstoerusting (byvoorbeeld rekenaar, skryfbehoeftes en gereedskap) in ‘n werkende toestand is ?						49
35	personeelvoorskrifte (byvoorbeeld reëls met betrekking tot oorplasings en werksure) wat bydrae tot u tevredenheid ?						50
36	u inset regverdig beloon word ?						51
37	u fisiese werksomstandighede (byvoorbeeld lig en kantoorruimte) voldoende is vir die tipe van werk wat u doen ?						52
38	die aard van u byvoordele (byvoorbeeld behuising, pensioen, mediese bystand) u gelukkig maak?						53
39	u take kan verrig sonder dat tyd ‘n te groot rol hierin speel ?						54
40	die wyse waarop dinge georganiseer word daartoe lei dat u goed kan presteer ?						55
41	die bestuur van mening is dat werknemers fluks en/of betroubaar is ?						56
42	u genoeg werk het om besig te bly?						57
43	die vereistes van u pos en dit wat u kan bied ooreenstem ?						58
44	die sosiale eise wat aan u gestel word, van so ‘n aard is dat maklik daaraan voldoen kan word?						59
45	u goeie prestasies raakgesien word?						60
46	u ondernemingsgees kan openbaar?						61

	HOE DIKWELS VOEL U IN U ORGANISASIE DAT ……..	**1. Byna nooit**	**2. Soms**	**3. Redelik baie**	**4. Baie**	**5. Byna altyd**	
47	u by verskillende take betrokke kan wees ?						62
48	u pos noodsaaklik is en behou gaan word ?						63
49	dat voorskrifte oor personeelsake (byvoorbeeld werksure en werksdrag) vir u bevredigend is?						64
50	u goeie verhoudinge met u toesighouer(s) kan handhaaf ?						65
51	u potensiaal ten volle gebruik kan word ?						66
52	u met u toesighouer kan gesels wanneer u dit wil doen ?						67
53	u goeie sosiale verhoudinge met almal kan handhaaf ?						68

DANKIE VIR U TYD!

SCORING STENCIL

EXPERIENCE OF WORK AND LIFE CIRCUMSTANCES QUESTIONNAIRE

LEVEL OF STRESS:
Calculate the sum of all 40 items of Scale A

Minimum score is 40
Maximum score is 200

CAUSES OUTSIDE THE WORK ENVIRONMENT:
Calculate the sum of the following items of Scale B: Items 8-23

Minimum score: 16
Maximum score: 80

WORK RELATED CAUSES:
Organisational functioning:
Calculate the sum of the following items of Scale C: items 1,18,21,40,41,45,52.
Subtract value of item B 1 from total.

Task characteristics:
Calculate the total of the following items of Scale C: items 3,4,5,6,8,17,19,20,27,28,39,42,46,47
Subtract the value item 2 of Scale B from the total of items of Scale C.

Physical work environment:
Calculate the total of the following items of Scale C: items 9,22,23,24,29,34,37
Subtract the value Scale B item 3 from the total of items of Scale C.

Career matters:
Calculate the total of the following items of Scale C: items 10,11,12,26,33,43,48,51
Subtract the value Scale B item 4 from the total of items of Scale C.

Social matters:
Calculate the total of the following items of Scale C: items 14,15,30,31,44,50,53
Subtract the value Scale B item 5 from the total of items of Scale C.

Remuneration, fringe benefits and personal policy:
Calculate the total of the following items of Scale C: items 2,7,13,16,25,32,35,36,38,49
Subtract the value Scale B item 6 and 7 from the total of items of Scale C.

THREE POINT SCALE FOR THE INTERPRETATION OF SCORES OF THE EXPERIENCE OF WORK AND LIFE CIRCUMSTANCES QUESTIONNAIRE

Scale	Levels of stress	Causes outside the work environment	Causes within the work environment					
			Organisational functioning	Task characteristics	Physical working conditions	Career matters	Social matters	Remuneration, Fringe benefits and personal policy
Very high	98-200	41-80	2-11	9-34	2-13	3-16	2-16	0-17
High	80-97	34-40	12-16	35-40	14-18	17-21	17-20	18-22
Normal	40-79	16-33	17-34	41-69	19-34	22-39	21-34	23-48
x	72.00	28.52	20.44	47.09	22.38	26.08	24.46	28.47
s	17.02	8.30	6.22	9.44	6.40	6.70	5.48	8.83

The categories serve only as guidelines and they should not be regarded as absolute limits. In this regard it is particularly important to take into account that the scores within the limits of a category may differ to a reasonable extent, whereas the top category differs only slightly from the lowest score in the adjacent category.