STRESS, WORK ENGAGEMENT AND PSYCHOLOGICAL WELL-BEING OF NURSES AT STATE HOSPITALS IN WINDHOEK, REHOBOTH AND OKAHANDJA

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ABSTRACT

Nursing is considered as being intrinsically stressful because nurses are exposed to dangers such as viruses, bacteria, needle-prick injuries and other hazards on a daily basis. Thus, this study set out to investigate the stress, work engagement, and psychological well-being of nurses working at state hospitals in Windhoek, Rehoboth and Okahandja. The objective of the study was to determine the levels as well as the relationships between stress, work engagement, and psychological well-being of the nurses in the study. The positive psychology paradigm which focuses on initiating a change in psychology from pre-occupation with repairing the worst things in life to also building the best qualities in life formed the theoretical basis of the study. This study used a quantitative approach which relied on the survey design. The sample consisted of a convenience sample (n=150) of nurses working at the state hospitals. A self-designed *demographic questionnaire*, the *Nursing Stress Inventory* (NSI)), the *Utrecht Work Engagement Scale* (UWES) and the *Warwick-Edinburgh Mental Well-being Scale* (WEMWBS) were utilized to determine the stress, work engagement and the psychological well-being of the nurses.

The results of the study revealed that, shortage of staff and irregular working hours were the most severe stressors for the nurses. The nurses also showed high dedication to their work. Furthermore, the results revealed that although the stress levels of nurses were relatively high, the nurses' level of psychological well-being was also significantly high. The main conclusion drawn from this study is that the psychological wellbeing and work engagement of nurses are high, irrespective of the nurses' high stress levels. It is

therefore recommended that systems and interventions are put into place to reduce the stress levels of nurses and to maintain their high dedication and psychological well-being levels.

DECLARATIONS

I, Esther N. Awuku, declare hereby that this study is a true reflection of my own research, and that this work, or part thereof has not been submitted for a degree in any other institution of higher education.

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__ ___ [Signature] Date: 21 November 2013

Esther N. Awuku

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I owe special thanks to the Ministry of Health and Social Services and the Permanent Secretary who granted me permission to carry out my research in the state hospitals in Windhoek, Rehoboth and Okahandja.

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DEDICATION

I hereby wish to dedicate this work to God, to my family and close friends, without whom I would not have been able to complete this thesis.

Map of Namibia

(http://www.vidiani.com/maps/maps_of_africa/maps_of_namibia/physical_and_road_map_of_namibia.jpg)

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

Nursing is considered as being intrinsically stressful as nurses are a high risk group for work stress (Demerouti, Bakker, Nachreiner & Schaufeli, 2000; Levert, Lucas & Ortlepp, 2000). Nurses' tasks are challenging as they primarily work with the health, suffering, grief and death of people (Schaufeli & Janczur, 1994; Van der Colff & Rothmann, 2009). Consequently, it is evident that nurses in general tend to give a lot of themselves to helping others. They work long hours in physically and mentally exhausting duties that may affect their own well-being.

Irrespective of the risk of stress and other occupational hazards, many health care practitioners, including nurses, stay working in the health care system for years and some remain engaged with their work (Cooper, 2000; Naudé & Rothmann, 2006). Work engagement is defined as a fulfilling, positive, work-related state of mind that is characterized by dedication, vigor, and absorption (Schaufeli, Salanova, González-Romá, & Bakker, 2002). Moreover, it is a persistent and pervasive affective-cognitive state which is not focused on a particular object, event, individual or behavior (Naudé & Rothman, 2006).

Felton (1998) states that burnout arises from prolonged stress or frustration due to exhaustion of physical or emotional strength. Moreover, empirical evidence suggests that stress is connected with two occupational conditions, namely, the social

environment at work and workload, which play a considerable role in the development of mental and physical health problems (Howie, Hopton, Heaney & Porter, 1992; Mustard, 2004; Repetti, 1993).

In addition, Rothmann, Van der Colff and Rothmann (2006) indicated that the well-being of health workers, who are already critically understaffed, is threatened by the insufficient provision of protective equipment, negligible waste disposal methods and elevated patient loads. Moreover, as a result of staff shortages some nursing staff are forced to work outside their job description, frequently without suitable training or remuneration. These nurses are exposed to dangers such as viruses, bacteria and needle-prick injuries on a daily basis. (Cordes & Dougherty, 1993).

According to Ryan and Deci (2001), there are two general perspectives of well-being. The hedonic approach which defines well-being in terms of pleasure attainment and pain avoidance and the eudaimonic approach which focuses on meaning and self-realization. This is derived from the school of psychology known as Positive Psychology which is aimed at initiating a change in psychology from a pre-occupation with repairing the worst things in life to also building the best qualities in life (Seligman & Csikszentmihalyi, 2000). This emphasis on strengths rather than weaknesses has been the primary reason this researcher has chosen the Positive Psychology approach as a theoretical model with which to conceptualize and operationalize this research.

1.2 Purpose of the Study

The purpose of the study was to determine the levels of stress, work engagement and the psychological well-being of nurses in state hospitals in Windhoek, Rehoboth and Okahandja (see map of Namibia on page viii) and the relationships between these variables. It was also to determine the relationships between the demographic features of the sample and their stress, work engagement and psychological well-being.

1.3 Problem Statement

Stilwell, Diallo, Zurn, Vujicic, Adams, and Dal Poz (2004) state that worldwide, the health care system is a cause for concern due to inadequacies such as insufficient number of workers to meet the demands of the ailing population and poor infrastructure. According to Vujicic, Zurn, Diallo, Adams and Dal Poz (2004), in developing countries, there are concerns that the health care system is not up to the standards found in developed countries. They further postulate that poor wages and a lack of policies catering to the well-being of health care practitioners may lead to the migration of health care workers to more developed countries.

Less developed countries are the main source of the migration of health care workers (including nurses) into more developed countries (Stilwell et al., 2004). Vujicic et al. (2004) state that this trend has led to concerns that in many of the source countries (especially African countries such as Zimbabwe, South Africa and Nigeria) the outflow of health care professionals (also known as brain drain) is adversely

affecting the health care system and, in turn, the health of the population. It is speculated that these challenges are applicable to the Namibian context as well.

Repetti (1993) further postulates that health care practitioners seem to get very little recognition, despite the fact that many are engaged in their work. In spite of all the literature available concerning the effects of work stress on nurses, there are gaps when it comes to the reasons why nurses remain in their jobs, irrespective of the risks of burnout, stress, and other negative job-related factors that may affect them. Many of these studies (Rothman et al., 2006; Van der Colff & Rothmann, 2009) concentrate on the negative aspects of the job on the nurses and not on positive outcomes of the job to the individual nurse.

1.4 Significance of the Study

This study aimed to provide insight into the psychological well-being of nurses in Windhoek, Rehoboth and Okahandja. Similar studies have been done in Western countries (Appleton, House & Dowell, 1998; Demerouti et al., 2000) and in some African countries (Naudé & Rothmann, 2006). However, to the knowledge of the researcher, there was no study which investigated stress, work engagement and the psychological well-being of nurses within the Namibian context. In addition, many research studies in the social sciences and psychology were carried out primarily in Windhoek. Hence, this study was carried out in Windhoek and two surrounding towns.

The research questions addressed in this study were as follows:

- What are the levels of stress of nurses in Windhoek, Rehoboth and Okahandja?
- What are the levels of work engagement of nurses in Windhoek, Rehoboth and Okahandja?
- What are the levels of psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?
- What are the relationships between stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?
- What are the relationships between the demographic variables, stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?

1.5 Summary of Introduction

In this chapter a brief overview has been given of the hazards of the nursing profession, including the stress, work engagement and well-being of nurses. The global problem of migration of health care workers, including nurses from developing to more developed countries was also addressed. Furthermore, this section also discussed the need of this study in Namibia. Specific aims and objectives of the study were also outlined which focuses on the stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja.

1.6 Outline of chapters to follow

Chapter two is an exposition on the theoretical framework on Positive Psychology and its definition of psychological well-being. Chapter three will examine the existing body of literature pertaining to stress, work engagement and the psychological well-being of nurses. The following chapter (four) delves into the methodology and methods, the data gathering tools and sampling method used in the study. Chapter five is a presentation of the results of the study. Finally, chapter six is the discussion of the results, the limitations, recommendations and conclusions of the study.

CHAPTER TWO

THEORETICAL FRAMEWORK

2.1 Introduction

The theoretical framework for this study is Positive Psychology. This is a relatively new school of thought. According to scholars well versed in this theory (Peterson, Park, & Seligman, 2005; Seligman, 2002; Seligman & Csikszentmihalyi, 2000), Positive Psychology is the study of human thriving. These scholars espouse that psychology traditionally focused on dysfunction with emphasis being placed on individuals with mental illness or other psychological problems and how to treat them. Positive Psychology, by contrast, is a field that examines how ordinary people can become happier and more fulfilled. According to Sheldon and King (2001), psychologists should try to cultivate a more appreciative perspective on human nature. The authors give examples of negative bias that seemingly pervades much of theoretical psychology to date and which may limit psychologists' understanding of typical and successful human functioning.

Despite the fact that the field of Positive Psychology is relatively new, there has been an influx of articles and papers written on the topic in recent years (Aspinwall & Staudinger, 2003; Duckworth, Steen & Seligman, 2005; Gable & Haidt, 2005; Linley, Joseph, Harrington & Wood, 2006). This chapter aims to give an overview on Positive Psychology and to explain the meaning, nature, and challenges of the phenomena under study and how it relates to the nursing profession.

2.2 Positive Psychology

Positive Psychology has thrived over the past few years. Seligman, Steen, Park and Peterson (2005) reviewed several developments in the field of Positive Psychology, including books, meetings, courses, and conferences. In this review, they discussed the classification of character strengths and virtues which was a positive complement to the various editions of the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 1994). As a result, leading scholars of contemporary psychology, set a research agenda for the scientific study of human strengths. These scholars contributed both supportive and challenging voices to this emerging field to encourage discourse. It stimulated new ways of thinking about topics such as intelligence, judgment, development, and health as well as applications to psychotherapy, education, organizational psychology and other realms of life (Aspinwall & Staudinger, 2003).

Gable and Haidt (2005), in a study on what Positive Psychology is, reveal that it is the study of the circumstances and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions. They stated that Positive Psychology had grown rapidly in a few years as it filled a need and guided researchers to understudied phenomena.

To reiterate the observations made previously, Seligman, Parks and Steen (2004) state that the aim of Positive Psychology is to initiate a change in psychology from the preoccupation with the study of disease, weakness, and damage, and to also study the strengths and virtue of people. Treatment is not aimed at just fixing what is wrong but also includes building and enhancing what is right. Positive Psychology is

about positive subjective experience, an individual's well-being and satisfaction, flow, joy, sensual pleasures, and happiness (Seligman & Csikszentmihalyi, 2000; Duckworth et al. 2005).

Linley et al. (2006) address several questions on what Positive Psychology is and its projected influence on contemporary psychology. They distinguished between the meta-psychological level, where the aim of Positive Psychology is to redress the imbalance in psychology research and practice, and the pragmatic level, which is concerned with what Positive psychologists do, in terms of their research, practice, and areas of interest. The distinctions on how Positive Psychology is understood, influences and shapes conceptions of the possible futures for Positive Psychology. Emphasis was placed on the need to synthesize the positive and negative aspects of life, build on historical antecedents, and integrate Positive Psychology across several levels of analysis.

2.3 Positive Psychology: The Study of Happiness

The pursuit of happiness is a major pursuit of many individuals. It is however, surprising that very little scientific research has been conducted on how to increase and maintain it. Lyubomirsky, Sheldon and Schkade (2005) propose that this is probably as a result of pessimism engendered by the concepts of genetic determinism and hedonic adaptation. They, however posit that emerging sources of optimism exist regarding the possibility of permanent increases in happiness. Drawing on past well-being literature, it was proposed that an individual's chronic happiness level is governed by three major factors, namely, a genetically determined set point for

happiness, happiness-relevant circumstantial factors, and happiness-relevant activities and practices. Adaptation and dynamic processes were suggested to demonstrate why the activity category offers the best opportunities for sustainably increasing happiness.

Seligman et al. (2005) presented several cross-cultural findings that suggest an ubiquity of strengths and virtues. Emphasis was placed on psychological interventions that may increase individual happiness. Furthermore, the authors tested five purported happiness interventions and one plausible control exercise. The results revealed that three of the interventions lastingly increased happiness and decreased depressive symptoms. This demonstrates that positive psychological interventions can supplement traditional interventions that relieve suffering and may someday be the practical legacy of Positive Psychology.

According to Lyubomirsky, King and Diener (2005), a number of studies indicate that happy individuals are successful across various life domains, including marriage, friendship, income, health and work performance. The authors proposed a conceptual model to offer a plausible explanation for these findings, arguing that the happiness-success link exists not only because success makes people happy, but also because positive affect engenders success. This study revealed that happiness is associated with and precedes numerous successful outcomes, as well as behaviors paralleling success. In addition, evidence suggested that positive affect, which is the hallmark of well-being may be the cause of many of the desirable characteristics, resources, and successes which are correlated with happiness.

Seligman et al. (2004), through a review of the literature came up with three constituents of happiness, namely; pleasure (or positive emotion), engagement and meaning. The first route to greater happiness is hedonic in nature, which is, increasing pleasure (positive emotion). This includes increasing positive emotion about the past by for example, cultivating gratitude and forgiveness. In addition, positive emotion can be increased about the present by for example through savoring and mindfulness. Positive emotion can be increased about the future by building hope and optimism. The second route to happiness involves the pursuit of 'gratification'. The key distinguishing factor of gratification is that it engages us fully. Individuals may find gratification through engaging in activities such as a great conversation, reading a good book, playing the guitar, teaching a child, or carrying out a difficult task at work. The pursuit of gratifications draws on character strengths such as creativity, social intelligence, perseverance, one's sense of humor, and an appreciation for beauty and excellence.

In addition, Seligman et al. (2004) posit that the third route to happiness comes from using ones strengths to belong to and be in the service of something larger than ourselves through knowledge, family, goodness, politics, community, justice or a higher spiritual power. The third route brings about meaning in life. It satisfies a longing for purpose in life. Furthermore, according to Peterson et al. (2005), a propensity to pursue happiness by enhancing positive emotion is known as 'the pleasant life'; the tendency to pursue happiness through gratifications is known as 'the good life'; and the tendency to pursue happiness through using our strengths towards something larger than ourselves is known as the meaningful life. Individuals

who use all three constituents to happiness lead the full life. Seligman (2002) reveals that recent empirical evidence suggests that those who lead the full life have greater life satisfaction.

2.4 Positive Psychology and Mental Health

Vaillant (2000) asserts that it is essential that psychology has a metric for positive mental health that would be equivalent to the IQ tests used to measure above average intelligence. The author proposed that the Defensive Function Scale of the DSM-IV offers a possible such metric. A link between transformational qualities of defences at the mature end of the Defensive Function Scale (altruism, suppression, humor, anticipation, and sublimation) to Positive Psychology was suggested. Methodological problems involved in assessing reliable defences were acknowledged. In addition, the use of prospective longitudinal studies to overcome such difficulties and to provide more reliable definition and measurement of defences was outlined. This study showed that unlike many psychological measures, the maturity of defences is independent of social class, education, and IQ. Evidence was also offered to illustrate the validity of mature defences and their contribution to Positive Psychology.

Conversely, Sin and Lyubomirsky (2009) conducted a study on enhancing well-being and alleviating depressive symptoms with Positive Psychology interventions. These include treatment options or intentional activities aimed at cultivating positive feelings, positive behaviors, or positive cognitions. The authors conducted a several such interventions to address this question and possibly provide practical guidance to clinicians. The results revealed that Positive Psychology interventions do enhance

well-being significantly and see some decrease in depressive symptoms in the participants.

Furthermore, Sin and Lyubomirsky (2009) found several factors that may impact the effectiveness of Positive Psychology interventions. These include the depression status, self-selection, and age of participants, as well as the format and duration of the interventions. This study emphasizes the need for clinicians to incorporate Positive Psychology techniques into their clinical work and in particular, while dealing with clients who are depressed, relatively older, or highly motivated to improve. Their findings indicate that clinicians would do well to deliver Positive Psychology interventions as individual versus group therapy and for relatively longer periods of time.

2.5 Positive Psychology and Human Thriving

Human thriving has been the goal of many and as such, Schmuck and Sheldon (2001) provide an overview on present research in different countries regarding the Positive Psychology of human thriving. Goal-perceptions and their relation to well-being were addressed. The variations in people's experiences of their goals and how these influence their level of happiness, irrespective of what goals are being pursued was discussed. Another point investigated is how variations in the types of goals that people pursue influence their level of happiness, regardless of how they perceive and appraise these goals. This is an intriguing aspect of the Positive Psychology theory as it looks at how individual goals may have an effect on the individual’s perception of happiness.

2.6 Positive Psychology and Goal Attainment

Goal attainment is a major benchmark for the experience of well-being. When asked, most people spontaneously discuss their life goals, wishes, and dreams for the future as the means to have a happy, fulfilling, and meaningful life. As discussed earlier, the primary goal of most individuals is to be happy. Research indicates that engaging in activities and worthwhile projects that do not have as their primary focus the attainment of happiness, usually results in happiness as a by-product. One can therefore surmise that goals contribute to make life meaningful, valuable, and worth living. As reiterated earlier, using this information for the prevention and diagnosis of human strengths, as well as for intervention, should be among the meaningful and manageable goals of Positive Psychology (Emmons, 2003).

According to Compton (2005), when goals are associated with positive relationships and helping others, one’s well-being is enhanced, whereas self-centered goals decrease well-being. The author further postulates that Approach-goals motivate one towards something more likely to be associated with subjective well-being rather than avoidance-goals, which seek to avoid difficulties, dangers, or fears. Kasser and Ryan (1993) reveal that when goals that facilitate affiliation, intimacy, self-acceptance, and community involvement are pursued, subjective well-being is enhanced.

2.7 Positive Psychology and Subjective Well-being

As revealed earlier, one of the components of Positive Psychology is subjective well-being. Diener (2000) asserts that Positive Psychology analyzes subjective well-being (SWB), that is, people's cognitive and affective evaluations of their lives. The author places emphasis in understanding the constituents of SWB, together with the importance of adaptation and goals to feelings of well-being, the temperament underpinnings of SWB, as well as the cultural influences on well-being. Moreover, Diener, Lucas, Smith and Suh (1999) discovered that subjective well-being includes four different components, namely, 1) pleasant affect, pleasant emotions and mood, 2) the relative absence of unpleasant affect such as anger, anxiety and depression), 3) life satisfaction, and lastly, 4) satisfaction with life domains such as marriage, work, income, housing, leisure and health. These factors influence and are part of an individual's experience of SWB.

2.8 Criticism of Positive Psychology

There are some criticisms on Positive Psychology and Held (2004) demonstrates that there are three ways in which the Positive Psychology movement's construction and presentation of itself are negative. The first negative side is construed as the negative side effects of Positive Psychology's dominant, separatist message. The second is the negativity that can be found within the Positive Psychology movement. Here the author expands on the negative or dismissive reactions of some spokespersons for the movement to ideas or views that run counter to the movement's dominant message. For example, negativity about negativity itself, which is explored by way of research

in health psychology and coping styles and about the wrong kind of positivity, namely, allegedly unscientific positivity, especially that which Seligman purports to find within humanistic psychology. Thirdly, these may create an epistemological position that contributes to “reality problems” for Positive psychologists.

Norem and Chang (2002) conducted a study on the Positive Psychology of negative thinking. They assert that although the Positive Psychology movement is gaining momentum both within psychology and in the broader culture, it is important to ensure that the complexity of individual personality and psychological processes do not get lost in an over simplified approach to improving human functioning. Consequently, the authors ruminated on some of the ways that the costs and benefits of different kinds of optimism and pessimism may vary across different individuals, situations, and cultural contexts. Using defensive pessimism research, they illustrated that there are times when pessimism and negative thinking are indeed Positive Psychology, as they may essentially lead to better performance and personal growth.

2.9 Positive Psychology and Nurses

Creating a healthy, positive work environment for nursing practice is crucial to maintaining an adequate nursing workforce. According to Shirey (2006), the stressful nature of the profession often leads to burnout, disability, and high absenteeism and ultimately contributes to the escalating shortage of nurses. The authors posit that authentic leadership is another facet of Positive Psychology. Nurse leaders play a pivotal role in the retention of nurses by shaping the healthcare practice environment to produce quality outcomes for staff nurses and patients. They propose that

operationalizing authentic leadership can affect not only the nursing workforce and the profession but the healthcare delivery system and society as a whole.

As indicated earlier, eustress is another important facet of Positive Psychology and as such, has hope, manageability and meaningfulness as its potential indicators. These indicators were included in a series of studies of hospital nurses and home health care nurses. Despite the demands of their work situations, the nurses reported a high degree of the positive psychological state of hope (Simmons & Nelson, 2001; Simmons, Nelson & Quick, 2004). These studies reveal that nurses remained actively engaged in their work, and the positive response to the demands they faced showed a significant relationship to their own well-being. It is a matter of interest that intensive care nurses, whose work entails significantly greater exposure to the stressors of death and dying, were even more hopeful and engaged in their work than their colleagues.

Vinje and Mittelmark (2008) in a study on community nurses who thrive reveal that habitual introspection and reflection about job engagement helped them make positive, adaptive adjustments in their working life. Moreover, when it comes to the positive work attitudes of job satisfaction, positive affect, hope, meaningfulness and manageability, there seems to be no differences when it comes to where the nursing staff is working in as was revealed in a comparative study of home health care registered nurses (RNs) and hospital RNs (Simmons, Nelson & Neal, 2001).

Taubman–Ben-Ari and Weintroub (2008) reveal that studies examining medical personnel indicate that exposure to the ill, especially terminally, often has detrimental effects on their emotional and physical well-being. However, recent

theoretical developments suggest that this exposure might also have positive implications. The authors examined two positive outcomes, meaning in life and personal growth among physicians and nurses working with hospitalized children and those exposed to different levels of patient mortality. The contribution of the personal resources of professional self-esteem and level of secondary traumatization and optimism were also examined. The findings indicated that a higher level of exposure to patient death, higher optimism, and professional self-esteem, as well as lower secondary traumatization predicted the sense of meaning in life. Occupation, as well as higher professional self-esteem and a higher level of secondary traumatization, especially among lower professional self-esteem individuals, predicted a higher experience of personal growth. In addition, nurses reported higher levels of professional self-esteem, secondary traumatization, and personal growth than physicians.

These studies indicate that even in extremely distressful jobs, eustress can be experienced, hereby increasing well-being among the nurses, despite the seemingly negative circumstances.

2.10 Summary of Theoretical Framework

As was discussed in this chapter, the past several years have seen a virtual explosion of research in the area of Positive Psychology and quite a number of authors have conducted different studies in relation to the said topic. The literature reveals that although Positive Psychology is a relatively new field of study, it is gaining popularity in mainstream psychology as a field which can contribute considerably to the mental well-being of people. Various authors have concluded that Positive Psychology is the scientific study of positive experiences and positive individual traits, and the institutions that facilitate their development. It is a field concerned with holistic well-being and optimal functioning of the individual as well as that of the community. Positive Psychology aims to broaden the focus of clinical psychology beyond suffering and its direct alleviation (Emmons, 2003; Held, 2004; Linley et al., 2006; Schmuck & Sheldon, 2001).

To reiterate the point discussed previously, Duckworth et al. (2005) proposed a conceptual framework that parses happiness into three domains, namely, pleasure, engagement, and meaning. The authors posit that for each of these constructs, there are valid and practical assessment tools appropriate for the clinical setting. Additionally, mounting evidence demonstrates the efficacy and effectiveness of positive interventions aimed at cultivating pleasure, engagement, and meaning. The authors contend that positive interventions are justifiable in their own right. Positive interventions may also usefully supplement direct attempts to prevent and treat psychopathology and, indeed, may covertly be a central component of good psychotherapy as it is done now.

It is as a result of this study and subsequent research on the impact of Positive Psychology that the author chose to apply this particular theory to this research paper, in order to gauge the well-being of the nurses in the study.

The next chapter is a review of the literature pertaining to stress, work engagement and psychological well-being and how these concepts relate to nurses. It gives an overview of what has been said, who the key writers are, what are the prevailing theories and hypotheses, and what questions are being asked on the said topic.

CHAPTER 3

LITERATURE REVIEW

3.1 Introduction

The objective of the literature review was to examine the current state of knowledge relating to stress, work engagement and psychological well-being experienced by nurses. This literature review provided a greater understanding of the aforementioned concepts and occupation. It has also provided guidance and organization for the ideas and theories pertaining to stress, work engagement and the psychological well-being of nurses.

A number of studies have been conducted on the effects of work stress on nurses and the work engagement of nurses. Over the years, there has been an amelioration of studies done on the mental health of a number of health care practitioners, including doctors, paramedics and social workers, however, there were few studies dealing specifically with the psychological well-being of nurses (Appleton et al., 1998; Begat, Ellefsen, Polit & Severinsson, 2005; Bourbonnais, Comeau, Vézina, & Dion, 1998; Jenaro, Flores, Orgaz, & Cruz, 2011; Gholamzadeh, Sharif & Rad, 2011).

3.2 Occupational Stress

Occupational stress is a major hazard for many workers. Rabin, Feldman and Kaplan (2010) indicate that factors such as increased workloads, downsizing, overtime, hostile work environments, and shift work are a few of the many causes of a stressful working condition. The point of departure for several models used in the job stress literature is that strain or stress is the result of a disruption in the equilibrium between the demands that employees are exposed to and the resources that they have at their disposal. For example, according to the well-known and influential demands–control model (Karasek, 1979), job stress is predominantly caused by the combination of high job demands such as work overload and time pressure as well as low job control. De Lange, Taris, Kompier, Houtman and Bonger (2004) declare that work characteristics affect health, either positively or negatively.

Conversely, Pelfrene et al. (2002) reveal that the Karasek Job Demand–Control model has its precept on the 'strain hypothesis', which states that adverse health outcomes are to be expected in 'high strain' jobs characterized by high job demands and low job control. The authors further postulate that this model was elaborated, revealing that 'isolated' high strain workers who experience low worksite social support are even more worse off. This has been labeled the 'iso-strain hypothesis'. Consequentially, in the literature, the question was posed as to whether a high level of job control may either mitigate or buffer the effects of high job demands on psychological well-being, or alternatively whether a high level of social support may buffer the negative impact of high strain on psychological well-being.

According to Motowidlo, Packard and Manning (1986), occupational stress can lead to emotional and physical disorders that have an impact on the personal as well as professional lives of an individual, when left unchecked. The individual may develop a level of tension that interferes with sleep, making relaxing outside the workplace impossible. Over time, the stress can trigger emotional disorders such as anxiety, depression and in some cases various phobias that further inhibit the ability to enjoy any aspect of living. In their study on occupational stress and its effect on job performance, Motowidlo et al. (1986) show that respondents' ratings of interpersonal aspects of job performance such as sensitivity, warmth, consideration, tolerance and cognitive/motivational aspects such as concentration, composure, perseverance, adaptability had a significant correlation with self-reported perceptions of stressful events, subjective stress, depression, and hostility.

Barnett and Brennan (2006), in a study on the relationship between job experiences and psychological distress reveal that employees' experiences of seven job conditions have been identified as potential job stressors. The seven job conditions were skill discretion, decision authority, schedule control, job demands, pay adequacy, job security, and relations with ones' supervisor. The authors further postulate that two job conditions, namely, skill discretion and job demands were related to psychological distress, whereas the other five conditions were not. These findings lend partial support to Karasek's job demand job control model.

In a related study, Schaubroeck and Fink (1999) reveal through their study that high levels of job control and social support are often related to effective job performance and coping with work stressors. However, support may have more positive effects on

role behavior when job control is low. In another study, Perrewe and Ganster (2006) postulate that under conditions of work overload, behavioral control may have an impact on an individual’s experience of work strain. Experimental laboratory findings suggest that control can lessen the impact of aversive stimuli on psychological and physiological strain responses, indicating that there may be an interaction between control and workload such that the effects of high demands on strain would be less if the worker had behavioral control over the task. This shows consistency with Karasek's job demands-job decision latitude model of work strain and health.

In their study, Wall, Jackson, Mullarkey and Parker (2011) argue that although Karasek’s model proposes that job demands and decision latitude interact to cause psychological strain, results in some studies have shown a lack of support for the model. They assert that this results from inadequate specification and operationalization of the independent variables. The authors go on to argue that most empirical tests of the interaction have been based on a general measure of decision latitude which encompasses a wide range of job properties including control, task variety and learning opportunities. The main effects of these job variables on strain have often been found; however, the predicted interaction between them has been less consistently demonstrated.

Landsbergis (2006) reported in a study on the occupational stress among health care workers that job strain (job dissatisfaction, depression, psychosomatic symptoms) and burnout is significantly higher in jobs that combine high workload demands with low decision latitude. This association remained significant after controlling for age,

sex, education, marital status, children, hours worked per week and shift worked. Other job characteristics (job insecurity, physical exertion, social support, hazard exposure) were also associated with strain and burnout. Pelfrene et al. (2002) in a study among a diverse mixture of male workers and female workers in Belgium, used four indicators of psychological well-being, namely, feelings of depression, feelings of fatigue, sleep problems and use of psychoactive drugs. The results revealed that in both men and women, the general strain hypothesis and the iso-strain hypothesis alike are corroborated.

Research shows that those in the health care profession are exposed to stressors which can produce an array of psychological, social and physical reactions as well as burnout. Growing empirical evidence shows that health professionals by the nature of their work are particularly vulnerable to stress with all its detrimental effects on service delivery and quality of care (Cordes & Dougherty, 1993; Rabin et al., 2010).

According to Appleton et al. (1998), problems with physical and mental health found among doctors in Leeds were associated with several aspects of workload, including list size, number of sessions worked per week, amount of time spent on call, and use of deputizing services. In another study, Howie et al. (1992) concluded that doctors with a higher patient-centered orientation find their work more stressful. Rout (1999) discovered through the job satisfaction scale that general practitioners of both genders were unhappy about their rate of pay, hours of work and amount of work they do. Conversely, Cooper, Rout and Faragher (1989) indicated through multivariate analysis that four job stressors were predictive of high levels of job dissatisfaction and lack of mental wellbeing among doctors in the study; these were

job demands, patients' expectations, and interference with family life, constant interruptions at work and home, and practice administration. This is indicative that the health care profession is a highly strenuous and stressful one, and there are many factors that play a role in contributing to this state of affairs. Regrettably, the nursing profession is no stranger to the aforementioned difficulties.

3.2.1 Occupational Stress Pertaining to Nurses

There is growing evidence to show that health professionals by the nature of their work are particularly vulnerable to stress with all its detrimental effects on service delivery and quality of care. Nursing is one of many disciplines contributing to a huge body of research into the causes and effect of occupational stress. A search on several databases revealed thousands of research results on the topic. It is evident that stress in nursing is a common phenomenon. However, there is a dearth of related studies conducted in Africa.

It is imperative that health care workers are healthy in order to deliver quality service. Bond (1986, as cited in Rothman et al., 2006) asserts that stress as a phenomenon has gained recognition in the nursing environment. Data gained from patients and empirical studies by researchers suggest that stress and health are closely linked. Consequently, nurses are seen to have more stress than most people due to the nature of their job and the system within which they work. Clegg (2001), states that the management and reduction of occupational stress in nursing are recognized as key factors in promoting employee well-being.

Wu, Zhu, Wang, Wang and Yaijia (2007) concluded through a study to determine the relationship between burnout and occupational stress among nurses in China that it is important to reduce occupational stress in nurses and to strengthen their coping resources to prevent burnout. In addition, Kowalski et al.(2010) postulate that between 15–45% of nurses working in hospitals in western countries suffer from burnout which is characterized by emotional exhaustion, depersonalization and decreased personal performance. As a result, the prevention of stress and burnout constitutes a great challenge to those responsible for the health care system, not least because burnout may cause increasing turnover rates in nurses and may lead to medical mistakes.

Shen, Cheng, Tsai, Lee and Guo (2005) in a study on the occupational stress of psychiatric nurses in Taiwan revealed that perceived occupational stress was associated with young age, widowed/divorced/separated marital status, high psychological demand, low workplace support, and threat of assault at work. A lower general health score was associated with low job control, high psychological demand, and perceived occupational stress. Furthermore, a lower mental health score was associated with low job control, high psychological demand, low workplace support, and perceived occupational stress. These results indicate that nurses are under significant stress related to work factors.

The working environment that nurses work in plays a major role in how they perceive their well-being. McKinney (2011) revealed in a study that nurses often have to practice their work in chaotic, demanding work environments. The authors propose that understanding the negative impact these environments have on nurses

and patients is paramount to halting this epidemic. Begat et al. (2005) through a descriptive-correlational study on nurses' satisfaction with their psychosocial work environment, in relation to nurses' well-being and by systematically comparing supervised and unsupervised nurses, reveal that ethical conflicts in nursing are a source of job-related stress and anxiety. Significant correlations were found between the nurses' well-being profile and demographic variables, their work engagement and motivation as well as absence due to illness. Correlations were also found between time allocation for tasks and physical symptoms and anxiety.

To expound on this, Gholamzadeh et al. (2011) in a study on nurses in Iran identified the following stressors: problem related to physical environment, work load, dealing with patients or their relatives and handling their anger, being exposed to health and safety hazards, lack of support by nursing administrators, a physician not being present in a medical emergency and lack of equipment. The authors revealed through the study that the most common strategy used by nurses to cope with stress was self-controlling and positive reappraisal and the strategy least used were accepting responsibility.

Inadvertently, psycho-social work seems to have an influence on nurses' experience of having or not having control and therefore, their engagement and motivation. In a comparative study, Begat and Severinsson (2006) further postulate that nurses' psychosocial work environment is improved as a result of clinical nursing supervision which in turn, enhances nurses' experiences of well-being.

Role ambiguity seems to lead to stress in nursing. Revicki and May (1989) explored employed measures of organizational climate (OC), supervisor behavior (SB), and work group relations (WGR) as predictors of the quantity of role ambiguity perceived by nurses to investigate occupational stress. Data were collected on 232 hospital nurses (aged 21–62 yrs) working in a rural community hospital affiliated with a medical school. OC, SB, and WGR directly influenced role perception. Increased role ambiguity led to decreased job satisfaction and increased perceived stress. The organizational environment directly influenced job stress. Occupational stress exerted a strong, direct influence on the development of depressive symptoms in nurses.

Nabiryer, Brown, Pryore and Maples (2011) in a study on the occupational stress, job satisfaction and job performance among hospital nurses in Kampala, Uganda state that occupational stress has been reported to affect job satisfaction and job performance among nurses in Western countries, thus compromising nursing care and inadvertently placing patients' lives at risk. Their study revealed that there were significant differences in levels of occupational stress, job satisfaction and job performance between public and private not-for-profit hospitals, nursing experience and number of children.

Injury in the work place is not uncommon in the nursing profession. In a study on work-related injury among nurses, Vecchio, Scuffham, Hilton and Whiteford (2011) reveal that nurses are at high risk for work-related injury and that work-related injury is strongly influenced by psychosocial factors and physical job-related exposures. Using the Work Outcomes Research Cost-benefit survey conducted in Australia

during 2005 and 2006, a sample of 5724 represented about fourteen percent of nurses in Queensland, Australia. Logistic regression was used to determine the magnitude of association of psychological distress (represented by the Kessler 6 score: six-item scale of psychological distress) and the number of health conditions and various socioeconomic factors with work place injury.

The aforementioned study revealed that high psychological distress was associated with a five percent probability of injury. As the number of health conditions increased, the probability of injury increased; between three and six health conditions increased the chance of injury by five to fifteen percent compared with no health conditions. Nurses who reported high levels of psychological distress demonstrated greater sensitivity to the number of health conditions, when compared with the total sample. Computation of the marginal effects showed little difference in the likelihood of injury when the total sample was compared with nurses with less than five years of work experience.

According to Chen, Davis, Davis, Pan and Daraiseh (2011), excessive workload for nurses may lead to poor quality of care and high nursing turnover rates. Energy expenditure (EE), heart rate (HR) and work pace (WP) can be used to examine the physiological impact from the workload. In their study, a total of 145 nurses wore monitors for one 12-hour day shift to record HR and WP, which were used to calculate EE. Individual and work-related factors were assessed through questionnaires and work logs. They revealed that Energy expenditure accumulated over the 12 hours reached the EE level of 8-hour shifts in which individuals work at a moderate physical intensity level. The HR data indicated a moderate cardiac stress

level throughout the shifts, and WP decreased after 15 hours. Inadequate work break and sleep, family care-giving responsibility and aging may challenge work recovery. The authors then concluded that nursing workload of 12-hour shifts has a negative physiological impact on hospital nurses.

Wheeler and Riding (1994) state in a study on the occupational stress in general nurses and in midwives, that the most common source of nurse stress is pressure of workload/time. The general level of stress as perceived by nurses in this study was moderate or mild rather than very or extremely stressful. There seemed to be little difference in stress level between general nurses and midwives, although general nurses rated the factors of management, relationships and facilities more highly as stressors. In general, most nurses found their job satisfying. In terms of career commitment, older nurses thought it likely that they would choose nursing again, while younger ones were evenly divided, although they were less likely than the older nurses to choose nursing again. This study revealed that nurses tend to have a high opinion of their professional effectiveness and strive for optimal work performance.

It is evident from the studies mentioned above and many more that nursing is a highly stressful occupation. As a result, several strategies have been developed to deal with stress. One of these is the cognitive-behavioral interventions to reduce occupational stress. Orly, Rivka, Rivka and Dorit (2012) conducted a study to investigate the impact of a cognitive-behavioral (CB) course on the nurses' well-being. The study compared the sense of coherence (SOC), perceived stress (PSS), and mood states of 20 nurses who had participated in the CB course to that of 16

control participants using a pre-post-test design. At baseline (t1), no significant differences were found between the two groups in SOC, PSS, and mood states. The effects within each group controlling for t1 were examined by analysis of covariance. At t2, a significant increase in SOC and the mood state of vigor and a significant decrease in PSS and fatigue were found only among participants in the CB course.

Stress may not always be experienced negatively and in recent literature, studies have been conducted on the positive results of stress, better known as eustress. The term 'eustress' was coined by Selye (1974, as cited in McGowan, Gardner & Fletcher, 2006) to denote the positive aspects of stress in contrast to 'distress' representing the negative aspects. Simmons and Nelson (2001) define eustress as a positive psychological response to a stressor, indicated by the presence of positive psychological states. Distress (or 'stress' as is commonly used in literature) is defined as a negative psychological response to a stressor, as indicated by the presence of negative psychological states. The authors further found eustress and distress to be discernible by affective state. Therefore, the positive psychological constructs of hope, meaningfulness and positive affect were significant indicators of eustress. Meaningfulness is experienced when work appears to make sense emotionally and seems to be worth investing ones effort in. Hope is the belief that one has both the will and the way to succeed. Positive affect reflects a condition of pleasurable engagement, energy and enthusiasm (Nelson & Simmons, 2003).

Simmons and Nelson (2001) espouse further on the subject in a paper on eustress at work. They addressed the relationship between hope and health in hospital nurses. This study examined the relationship between eustress, which is a positive response

to work demands, and health among a sample of hospital nurses. The positive psychological states of hope, positive affect, and meaningfulness were used as indicators of eustress, and the psychological state negative affect was used as an indicator of distress. Hope, which is the belief that one has both the will and the way to accomplish one's goals, had a significant, positive relationship with the perception of health in this sample of hospital nurses.

Using a cross-sectional survey design in which nurses from 12 units in a 908-bed university hospital in the Southeast completed questionnaires on one occasion, Shader, Broome, Broome, West and Nash (2001) measured nurses' perception of job stress, work satisfaction, group cohesion, and anticipated turnover, using self-report questionnaires. The results revealed that the more job stress there was, the lower the group cohesion, leading to a lower work satisfaction, and hence, a higher anticipated turnover.

Moreover, the higher the work satisfaction among the nurses, the higher the group cohesion and consequently, lower anticipated turnover. The more stable the work schedule was, the less work-related stress, the lower anticipated turnover, therefore the higher group cohesion, and the higher work satisfaction. Job Stress, work satisfaction, group cohesion, and weekend overtime were all predictors of anticipated turnover. This study shows job stress has an impact on the satisfaction that nurses derive from their work. As healthcare institutions worldwide face a nursing shortage and as a new generation of nurses enters the workforce, factors that influence turnover should be considered so as to create a working environment that retains the

nurse. One can then infer that occupational stress is invariably linked to work engagement (Shader et al., 2001).

3.3 Work Engagement

In chapter two of this paper, several studies discussed the value of work engagement among nurses. In recent years, the importance of employees' psychological connection with their work has been reiterated. To compete effectively in the global market, most organizations must not only recruit the top talent, but should also be able to inspire and enable their employees to apply their full capabilities and potential to their work. For this to occur successfully, most companies today need employees who are psychologically connected to their work and who are willing and able to effectively invest themselves fully in their roles. The employees should also be proactive and committed to high quality performance standards. In essence, these are employees who are engaged with their work (Bakker & Leiter, 2010).

To expound on this, Bakker and Leiter (2010) and Gorgievski, Bakker and Schaufeli (2010) assert that employees who are engaged in their work are highly energetic, self-efficacious individuals who have a heightened ability to influence events that affect their lives. Due to their positive attitude and elevated activity level, engaged employees create their own positive feedback, in terms of recognition, appreciation, and success. Irrespective of the fact that engaged employees feel tired after a long day of hard work, they deem tiredness as a rather pleasant state as they inadvertently associate it with positive accomplishments. Moreover, engaged employees also fully enjoy other things outside work and unlike workaholics, engaged employees do not

work hard due to a strong and irrepressible inner drive, but for the sheer pleasure of working.

Furthermore, according to an article by the Association for Psychological Science (2011, July 20), work engagement depends on two kinds of resources, job resources and employees' own personal resources. Job resources include social support, feedback, and opportunities for autonomy, variety, and growth. Such resources are good for the worker as they satisfy basic human needs and are good for the workplace. When job resources are rich, work gets done more quickly and with better results. Working better is more rewarding for the worker, which in turn increases engagement and therefore, their effectiveness in the workplace. Employees' own personal resources such as self-esteem and optimism also contribute to work engagement. These workers who seem to have an abundant storehouse of personal resources approach their jobs with more enthusiasm and joy. As a result, they tend to experience better health which allows them to focus and work hard.

By definition, work engagement refers to a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Vigor is characterized by high levels of energy and mental resilience while working. Dedication refers to being strongly involved in one's work, thus experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work (Schaufeli et al., 2002; Schaufeli et al, 2008).

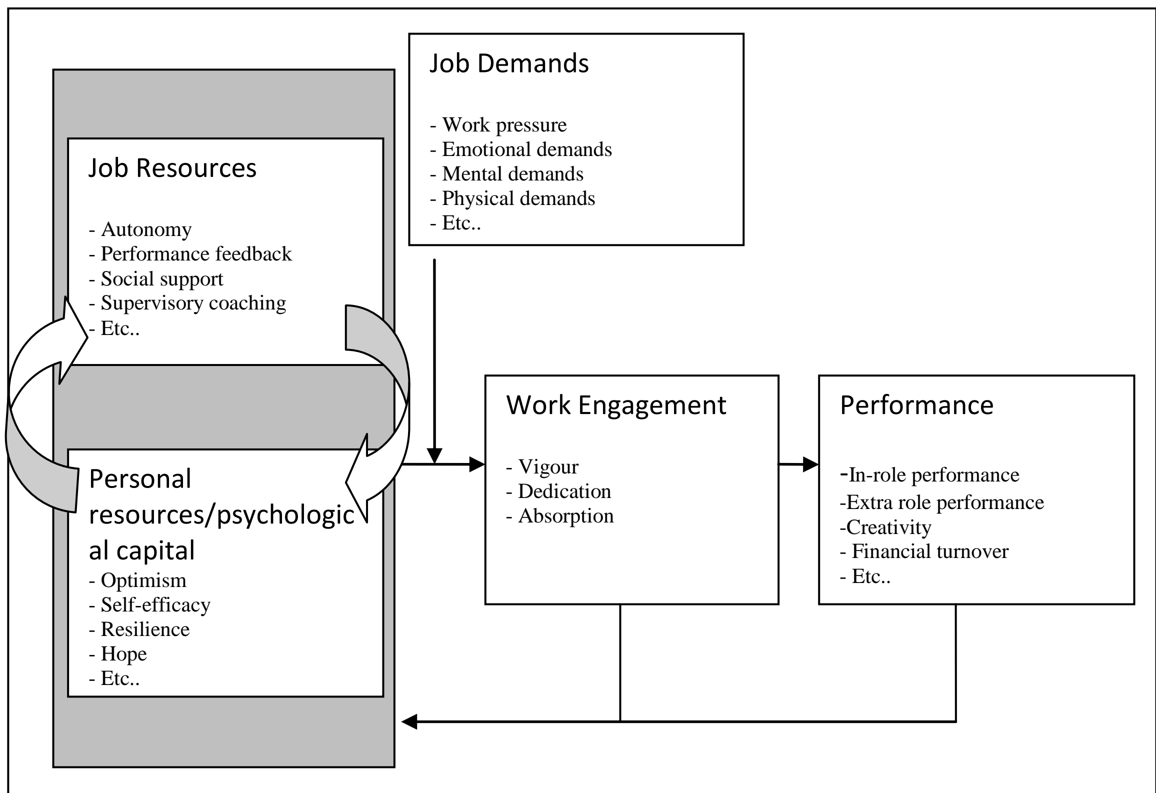

Figure 1: The JD-R model of work engagement (based on Bakker & Demerouti, 2007, 2008)

According to Bakker, Schaufeli, Leiter and Taris (2008), there are different views of work engagement, however, most scholars agree that engaged employees have high levels of energy and identify strongly with their work. The most often used instrument to measure engagement is the Utrecht Work Engagement Scale (UWES) (which will also be used in this study), a self-report instrument that has been validated in many countries across the world. The authors indicate that research on engagement has investigated how engagement differs from related concepts such as workaholism and organizational commitment and has focused on the most important predictors of work engagement. These studies have revealed that engagement is a

unique concept that is best predicted by job resources (e.g., autonomy, supervisory coaching, performance feedback) and personal resources (e.g., optimism, self-efficacy, self-esteem) (see Figure 1). The studies have also shown that work engagement is predictive of job performance and client satisfaction.

According to a review of the literature by Simpson (2008), four engagement models were highlighted. The four models range from Kahn's (1992) broader Model of Personal Engagement, which includes individual, work context, and outside of work engagement antecedents, to a less broader model of personal engagement, as identified in Maslach and Leiter's Work Life Model (1997), The Job-Demands Resource Model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, Schaufeli, 2001), Harter, Schmidt & Keyes, (2003) and the Employee Engagement model. The three latter models narrow the focus and include only work-based antecedents and consequences.

To disseminate several employee well-being concepts, Schaufeli, Taris and Van Rhenen (2008) revealed in a sample of 587 workers whether workaholism, burnout, and work engagement (the supposed antipode of burnout) can be distinguished empirically. These three concepts were measured with existing, validated multi-dimensional questionnaires. Structural equation modelling revealed that a slightly modified version of the hypothesized model that assumed three distinct yet correlated constructs namely, burnout, engagement, and workaholism, fit the data best. Multiple regression analyses revealed that these three concepts retained unique hypothesized patterns of relationships with variables from five clusters representing (1) long working hours, (2) job characteristics, (3) work outcomes, (4) quality of social

relationships, and (5) perceived health, respectively. In the analyses provided converging evidence that workaholism, burnout, and engagement are three different kinds of employee well-being rather than three of a kind.

In a study on a meta-analysis of work engagement, looking at the relationships with burnout, demands, resources, and consequences, Halbesleben, Bakker and Leiter (2010) discovered, with a few exceptions, that work engagement constructs were negatively associated with burnout as predicted by the literature. In addition, as predicted, resources were positively related and demands were negatively related to engagement; however resources were much more strongly related. Finally, engagement was positively associated with positive outcomes at work, including a stronger relationship between dedication, an identification-based component of engagement and commitment and turnover intention.

Wah (1999, as cited in Attridge, 2009) revealed in a review of the literature on engagement that a low rate of engagement has been found on numerous surveys conducted in the past 10 years and this represents a global crisis in productivity and worker well-being. Indeed, engaging employees is one of the top five most important challenges for management, according to a survey of 656 chief executive officers from countries around the world. Hakanen, Schaufeli, and Ahola (2008) concluded through their study that job resources influenced future work engagement. In addition, previous studies have consistently shown that job resources such as social support from colleagues and supervisors, performance feedback, skill variety, autonomy, and learning opportunities are positively associated with work engagement (Bakker & Demerouti, 2007; Schaufeli, & Salanova, 2007).

Salanova and Schaufeli (2008), in a cross national study discussed the mediating role of work engagement (vigor and dedication) among job resources (job control, feedback and variety) and proactive behavior at work. This mediating role was investigated, using Structural Equation Modeling in two independent samples from Spain (n = 386 technology employees) and the Netherlands (n = 338 telecom managers). Results in both samples confirmed that work engagement fully mediates the impact of job resources on proactive behavior. Subsequently, multi-group analyses revealed that the strengths of the structural paths of the mediation model were invariant across both national samples, underscoring the cross-national validity of the model.

In another study, Mauno, Kinnunen and Ruokolainen (2007), utilizing a two year longitudinal design, investigated the experience of work engagement and its antecedents among Finnish health care personnel. This study showed that work engagement, especially vigor and dedication was frequently experienced among the participants, and its average level did not change across the follow-up period. In addition, the experience of work engagement turned out to be reasonably stable during the two year period. Job resources predicted work engagement better than job demands. Job control and organization-based self-esteem proved to be the best lagged predictors of the three dimensions of work engagement. However, only the positive effect of job control on dedication remained statistically significant after controlling for the baseline level of work engagement.

Most of the above mentioned studies show a link between job resources and personal resources and how it influences work engagement. In another study by

Xanthopoulou, Bakker**,** Demerouti and Schaufeli (2009), longitudinal relationships between job resources, personal resources, and work engagement were examined. On the basis of Conservation of Resources theory, a hypothesis that job resources, personal resources, and work engagement are reciprocal over time was made. The study was conducted among 163 employees, who were followed-up over a period of 18 months on average.

Results of structural equation modeling analyses supported the above mentioned hypotheses. Specifically, the results showed that job and personal resources related positively to work engagement. Additionally, work engagement related positively to job and personal resources. According to this study, the model that fit best was the reciprocal model, which showed that resources and work engagement and also job and personal resources were mutually related. The authors then concluded that these findings support the assumption of the Conservation of Resources theory that various types of resources and well-being evolve into a cycle that determines employees' successful adaptation to their work environments.

3.3.1 Work Engagement Pertaining to Nurses

Harowitz, Suchman, Branch and Frankel (2003) state that medical practice has always been difficult and the risk for burnout as a by-product of work engagement is a reality. They discovered that the practitioners who found joy and satisfaction through their work prevailed over the challenges, enabling them to sustain a lifelong commitment to service.

Simpson (2008) asserted that engagement at work, and more specifically, nurse engagement, is poorly understood and as a result, conducted a review of the literature on nurses' work engagement. The four lines of engagement research were highlighted and focus was put on the determinants and consequences of engagement at work. As a result of the study, it was concluded that emphasis should be put on nurses' work engagement and its relationship to nurses' organizational behavior. They further reiterated that work performance and healthcare organizational outcomes are essential to building a conceptually consistent definition and measurement of work engagement for nurses. In addition, the authors postulated that future research is needed in order to provide nurse leaders with a better understanding of how nurses' work engagement impacts and has an effect on organizational outcomes, including quality of care indicators.

Some studies reveal that stress and work engagement are linked. Van der Colff and Rothmann (2009) revealed in a study that the experience of depletion of emotional resources and feelings of depersonalization by registered nurses was associated with stress due to job demands and a lack of organizational support. It can then be inferred that the effects of stress may affect the work experience and eventual productivity of an employee and in the case of this study, nurses.

Cho, Laschinger and Wong (2006), in a study to examine factors that will promote the engagement and empowerment of newer workforce, used a predictive, non-experimental survey design to test a theoretical model in a sample of new graduate nurses. More specifically, the relationships among structural empowerment, six areas of work life (conceptualized as antecedents of work engagement), emotional

exhaustion and organizational commitment were examined. As predicted, structural empowerment had a direct positive effect on the areas of work life, which in turn had a direct negative effect on emotional exhaustion. Subsequently, emotional exhaustion had a direct negative effect on commitment.

In another study, Simpson (2009), using a descriptive, cross-sectional study examined the relationship of job satisfaction, turnover cognitions, job search behavior, and nurse demographics to work engagement among a sample of 167 registered nurses employed on medical and/or surgical units within six hospitals. Professional status, interaction, and thinking of quitting together explain 46% of the variance in work engagement. Additionally, the job satisfaction components of professional status and interaction are shown to significantly moderate the relationship between thinking of quitting and work engagement. Hence, the results suggest that there should be improvements in work environment processes, consistent with professional status and interaction at work. As an example, the authors recommended an integration of a professional nursing practice model and development and positioning of transformational leaders at every level of the organization.

Nurse leaders’ empowering behaviors can be pivotal in the way nurses react to their work environment. Greco, Laschinger and Wong (2006) conducted a study examining the relationship between nurse leaders' empowerment behaviors, perceptions of staff empowerment, areas of work life and work engagement using Kanter's theory of structural power in organizations. A cross-sectional correlational survey design tested the model in a random sample of 322 staff nurses in acute care

hospitals across Ontario. Overall, staff nurses perceived their leaders' behaviors to be somewhat empowering and their work environment to be moderately empowering. Fifty-three percent reported severe levels of burnout. Leader empowering behavior had an indirect effect on emotional exhaustion (burnout) through structural empowerment and overall fit in the six areas of work life. According to the authors, these findings suggest that the nurse leader's empowering behavior can enhance person-job fit and prevent burnout in the nurses.

Jenaro et al. (2011) using a descriptive, correlational study collected survey data over a 7-month period (2006–2007) from a convenience sample of 412 Nurses. The measures that were utilized were the Work Engagement Survey, the General Health Questionnaire, and a survey. Results revealed that concerning psychiatric morbidity, 49% nurses met criteria for somatic symptoms, 65.5% met criteria for anxiety and insomnia, 4.6% met criteria for social dysfunction and 10% met criteria for severe depression. The authors reported no effects for length of service or professional category. Nurse Managers scored significantly higher in several job stressors compared with other groups. Concerning engagement, 33% of the nurses experienced high dedication, 20.4% experienced high vigor and 36.7% experienced high absorption. Predictors of vigor and dedication were satisfaction with job position, higher quality of working life, lower social dysfunction and lower stress associated with patient care.

Tomic and Tomic (2011) reveal that as a contrast to workload, existential fulfillment and work engagement are positive dimensions of personal functioning in organizations. Therefore, research on positive dimensions fits into the context of

Positive Psychology, the theoretical framework for this study. Existential fulfillment, workload and engagement have not yet been investigated among nurses, making the following study one of interest. The authors examined the relationships between existential fulfillment, workload and engagement, as well as the contribution of the first two concepts to engagement. Two dimensions of existential fulfillment, namely, self-acceptance and self-actualization, and the three engagement dimensions were positively correlated. Self-transcendence was associated with one engagement dimension, namely, dedication. Self-actualization explained a substantial percentage of variance in all three dimensions of engagement. The results further revealed that workload was negatively associated with engagement, meaning the higher the workload scores, the lower the vigor and dedication scores. Workload explained a substantial percentage of variance in vigor and dedication. Inadvertently, self-actualization and workload are important engagement determinants and constitute an important facet in the work engagement of nurses.

Another Positive Psychology construct was studied in the following study. Palmer, Quinn, Mary, Reed and Fitzpatrick (2010) define self-transcendence as an individual's ability to find meaning by being directed toward something, or someone, other than themselves. According to the authors, previous research indicated that the ability of nurses to self-transcend and thus derive positive meaning from patient-caring experiences increased work commitment and fostered work engagement. However, the relationship between self-transcendence and work engagement had not been investigated prior to this study.

The purpose of the aforementioned study was to explore the levels and relationships of self-transcendence and work engagement in acute care staff registered nurses (ACSRNs). This was a descriptive co-relational study using Reed's theory of self-transcendence. The Self-transcendence Scale, the Utrecht Work Engagement Scale, and a demographic questionnaire were completed by a convenience sample of 84 ACSRNs who attended an annual acute care nursing conference in northern Illinois. The results revealed that ACSRNs level of self-transcendence were high, similar to that of other nurses, but higher than that of non-nurses. ACSRNs level of work engagement was at the high end of the average range. There was a significant positive correlation between self-transcendence and work engagement. Nurses with higher levels of self-transcendence had more energy toward and were more dedicated and absorbed in their work (Quinn et al., 2010).

3.4 Psychological Well-being

According to Ryan and Deci (2001), well-being is a complex and multi-dimensional construct that concentrates on optimal experience and functioning of the individual, the extent to which a person is fully functioning. It has a strong psychological and theoretical background. Ryff and Keyes (1995) state that Erik Erikson's psychosocial stages, Buhler's basic life tendencies, and Neugarten’s personality changes present wellness as a course of continued growth across the life cycle.

Taylor and Brown (1988) reveal in their study on illusion and well-being that many prominent theorists argue that accurate perceptions of the self, the world, and the future are essential for mental health and inadvertently, psychological well-being.

Despite this, considerable research evidence suggests that overly positive self-evaluations, exaggerated perceptions of control or mastery, and unrealistic optimism are characteristic of normal human thought. Moreover, these illusions appear to promote other criteria of mental health, including the ability to care about others, the ability to be happy or contented, and the ability to engage in productive and creative work. The authors espouse that these strategies may succeed, in large part, because both the social world and cognitive-processing mechanisms impose filters on incoming information that distort it in a positive direction. As a result, negative information is isolated and represented in an unthreatening manner. These positive illusions prove to be useful when an individual receives negative feedback or is otherwise threatened.

There's a general belief that optimism has a positive effect on psychological well-being. Scheier, Carver, Bridges and Chang (2001) presented an overview of research on the effects of an optimistic orientation to life on psychological well-being. The authors reviewed some of the empirical evidence linking positive thinking to well-being, focusing on prospective studies in both health- and non-health related contexts. They considered the reasons why optimism might confer benefits, arguing that the benefits are due, in part, to the way in which optimists and pessimists manage their problems. The paper was concluded by assessing whether or not the effects of optimism are always good and the effects of pessimism are always bad.

Ryff (1989) revealed in her study on exploring the meaning of psychological well-being that the reigning measures of psychological well-being at the time had little theoretical grounding, despite extensive literature on the contours of positive

functioning. Aspects of well-being derived from the literature (i.e., self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth) were operationalized.

In the study, 321 men and women, divided among young, middle-aged, and older adults, rated themselves on these measures along with six instruments prominent in earlier studies (i.e., affect balance, life satisfaction, self-esteem, morale, locus of control, depression). Results revealed that positive relations with others, autonomy, purpose in life, and personal growth were not strongly tied to prior assessment indexes, thereby supporting the claim that key aspects of positive functioning have not been represented in the empirical arena. Furthermore, age profiles revealed a more differentiated pattern of well-being than was evident in prior research.

For further insight on the construct of psychological well-being, Ryff and Keyes (1995) came up with a theoretical model of psychological well-being that encompasses 6 distinct dimensions of wellness (Autonomy, Environmental Mastery, Personal Growth, Positive Relations with Others, Purpose in Life, Self-Acceptance). This was tested with data from a nationally representative sample of adults (N = 1,108), aged 25 and older, who participated in telephone interviews. Confirmatory factor analyses provided support for the proposed 6-factor model, with a single second-order super factor. The model was superior in fit over single-factor and other artifactual models. Age and sex differences on the various well-being dimensions replicated prior findings. Comparisons with other frequently used indicators (positive and negative affect, life satisfaction) demonstrated that the latter neglects key aspects of positive functioning emphasized in theories of health and well-being.

Brown and Ryan (2003) assert that mindfulness is an attribute of consciousness believed to promote well-being. This research provided a theoretical and empirical examination of the role of mindfulness in psychological well-being. The development and psychometric properties of the dispositional Mindful Attention Awareness Scale (MAAS) are described. Correlational, quasi-experimental, and laboratory studies showed that the MAAS measures a unique quality of consciousness that is related to a variety of well-being constructs, it differentiates mindfulness practitioners from others, and it is associated with enhanced self-awareness. An experience-sampling study showed that both dispositional and state mindfulness predicted self-regulated behavior and positive emotional states. In addition, a clinical intervention study with cancer patients demonstrated that increases in mindfulness over time relate to declines in mood disturbance and stress.

Some studies reveal that psychological well-being can have an impact on the physical well-being of an individual. In one study, Folkman and Greer (2000) describe the interplay among theory, research and practice regarding the maintenance of psychological well-being during serious illness. The ideas emerged from two independent lines of work, one evolved through clinical practice within the medical model and the other evolved through theory and field research within a behavioral science model. The authors state that each of these lines of work independently points to the importance of focusing on psychological well-being and the coping processes that support it, as a complement to the traditional focus in both the medical and behavioral sciences on psychiatric symptoms.

In another study on the necessity of psychological well-being and physical health, Scheier et al. (1989) conducted a study on dispositional optimism and recovery from coronary artery bypass surgery, the beneficial effects on physical and psychological well-being. In this study, the authors reveal that dispositional optimism proved to be an important predictor of coping efforts and of surgical outcomes. More specifically, dispositional optimism (as assessed prior to surgery) correlated positively with manifestations of problem-focused coping and negatively with the use of denial. Dispositional optimism was also associated with a faster rate of physical recovery during the period of hospitalization and with a faster rate of return to normal life activities subsequent to discharge. Finally, there was a strong positive association between level of optimism and postsurgical quality of life after six months.

There are many facets to well-being and one of the things that may have an impact on ones well-being is the role one plays in society. Baruch and Barnett (1986) examined women's occupancy of the social roles of paid worker, wife, and mother, and the quality of their experience in these 3 roles in relation to their psychological well-being. Data were gathered from a disproportionate (i.e., women from high-prestige occupations) random sample of 23 Caucasian women (aged 35–55 years).

In the aforementioned study, well-being was measured by indices of self-esteem, depression, and pleasure; pleasure was assessed by a scale consisting of single-item measures of happiness, satisfaction, and optimism. Role quality was measured by scales (developed for this study) that assessed the balance between the positive and negative attributes women perceived in their roles. Hierarchical regression analyses controlling for age, education, and income indicated that role occupancy was

unrelated to well-being with one exception-occupying the role of paid worker significantly predicted self-esteem. In contrast, the three role-quality variables were significant predictors of the well-being indices, except that quality of experience in the role of mother did not predict pleasure. Findings suggest the importance of qualitative rather than quantitative aspects of role involvement and the need to examine different dimensions of well-being in relation to social roles.

Research on work and well-being indicates that paid employment had beneficial consequences for mental health. Adelmann (1987) conducted a study on the impact of paid employment on psychological well-being. In this study, it was hypothesized that higher occupational complexity, control, and personal income would be associated with higher levels of happiness and self-confidence and lower psychological vulnerability. In addition, the possibility was explored that models describing these correlations for employed women (n = 330) might differ from those for employed men (n = 618).

Furthermore, stepwise regression results indicated that occupational characteristics explain a small but significant proportion of variance in each measure of psychological well-being controlling for the effects of age and education. In addition, analysis of covariance revealed that separate regressions characterize employed men and women for happiness and self-confidence but not for vulnerability. Occupational characteristics also explained a significant proportion of variance in self-confidence for both men and women and in happiness for men.

Studies show that employment or the lack thereof has an impact on an individual’s psychological well-being (Arnold, Turner, Barling, Kelloway & McKee, 2007;

Reynolds, 1997; Sparks, Faragher & Cooper, 2010; Ullah, 1990; Winefield & Tiggemann, 1990). McKee-Ryan, Song, Wanberg and Kinicki (2005) used theoretical models to organize the diverse unemployment literature, and meta-analytic techniques were used to examine the impact of unemployment on worker well-being across 104 empirical studies with 437 effect sizes. Unemployed individuals had lower psychological and physical well-being than did their employed counterparts. Unemployment duration and sample type (school leaver vs. mature unemployed) moderated the relationship between mental health and unemployment. Within unemployed samples, work-role centrality, coping resources (personal, social, financial, and time structure), cognitive appraisals, and coping strategies displayed stronger relationships with mental health than did human capital or demographic variables.

3.4.1 Psychological Well-being Pertaining to Nurses

Nursing has been previously identified as a stressful occupation; however, studies addressing issues of nurses' mental health are scarce. This study seeks to assess the psychological well-being of nurses in State hospitals in Windhoek, Rehoboth and Okahandja. Upon a review of the literature pertaining to the psychological well-being of nurses, there exists a minute number of studies conducted on the said topic in comparison to the previous two constructs under study.

A significant study, done in Alexandria (Egypt) revealed that negative family and friend support, fewer years of experience, and negative total work satisfaction were found to be significant predictors of psychological ill health among nurses in a

descending rank order. In this paper, Arafa, Nazel, Ibrahim and Attia (2003) reported that 21.67% of the nurses in their study recorded moderate to severe psychological symptoms on the General Health Questionnaire (GHQ). It is evident from this study that the presence of work satisfaction plays a role in the psychological well-being of nurses.

Burke and Greenglass (2010) indicate a link between stress and psychological symptoms in their study. They assert that restructuring and downsizing stressors had significant relationships with work-family conflict. Work-family conflict in turn, had significant relationships with psychological health. In another related study on the effects of work environment on the psychological well-being of nurses, Bourbonnais et al. (1998) conducted a longitudinal study on 1,891 nurses, aged 23-65 years from six acute care hospitals from the province of Québec. This was to explore the association between the psychosocial environment of work and mental health. After adjusting for confounding factors, a combination of high psychological demands and low decision latitude was associated with psychological distress and emotional exhaustion in the participants. Social support at work, although associated with each of the mental health indicators, did not modify their association with job strain.

Brunetto, Farr-Wharton and Shacklock (2011) conducted a study on Supervisor-nurse relationships, teamwork, role ambiguity and well-being on public versus private sector nurses. Through path analysis, they discovered that supervisor-nurse relationships affect nurses' perceptions of teamwork, role ambiguity and consequently, their well-being. Of the two groups, private sector nurses were the most satisfied with their supervisor-nurse relationship and teamwork, and therefore

had higher perceived levels of both role clarity (instead of role ambiguity) and consequent well-being.

3.5 Summary of Literature Review

Literature has shown that there is a link between stress and work engagement which consequently leads to psychological well-being. According to Shader et al. (2001), nurse turnover is a costly problem that will continue as healthcare faces the impending nursing shortage worldwide. Incentives provided to nurses to work for institutions will have to increase as a new generation of nurses enters the workforce.

The authors reveal that a variety of factors influence the retention of nurses in health care settings, including work satisfaction, group cohesion, job stress, and work schedule. There is ample literature to support the psychological well-being relating to work engagement and stress experienced by nurses at their workplace. However, the literature relating to Positive Psychology is not sufficient. In general, some of the above mentioned studies have shown positive relationships between work satisfaction, group cohesion, strong leadership, and retention rates and a negative relationship between stress, work schedule, and retention. Hence the workplace or station that nurses work in either compounds adverse effects such as stress levels, conflict in the home and work effectiveness; or improves their psychological interests for the better.

In this chapter, it was revealed that age and experience in nursing are related to job satisfaction. Furthermore, the studies in the literature review also revealed that work-

family conflict can be a contributing factor to the psychological well-being of nurses positively or negatively. There are many factors that contribute to the welfare of nurses in the workplace and the literature available on these factors are broad, however there is room for more research on the subject matter.

The following chapter offers an exposition on the methods used in the information gathering process of this study. It will describe the materials used in the study, explain how the materials were prepared, describe the research protocol, and explain how measurements were made and what calculations were performed. It will also state which statistical tests were done to analyze the data.

CHAPTER FOUR

METHODOLOGY

4.1 Introduction

This chapter will focus on the methods used to answer the research questions in this study. The goals of the study were to describe the levels of stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja. It was also to describe the relationships between stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja.

According to Kallet (2004), the methods section of a research paper provides information to judge the validity of the study. Therefore, this chapter centres on providing a precise and clear description of how the study was carried out, and the rationale for why specific procedures were chosen for this study. This section will describe what was done to answer the research questions as stated below. The research design, the sampling method and the research instruments used will be clarified. In addition, the data collection procedures, research ethics as well as the data analysis will be described.

4.2 Aims and Objectives

This study aims to investigate the levels of stress, work engagement and the psychological well-being of nurses in Windhoek, Rehoboth and Okahandja. The specific research questions of this study were as follows:

- What are the levels of stress of nurses in Windhoek, Rehoboth and Okahandja?
- What are the levels of work engagement of nurses in Windhoek, Rehoboth and Okahandja?
- What are the levels of psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?
- What are the relationships between stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?
- What are the relationships between the demographic variables, stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja?

4.3 Research Design

This study used a quantitative approach and utilized a descriptive research design, namely, the survey design. Generally, the term survey refers to a research methodology designed to collect data from a specific population, or a sample from that population, and typically uses a questionnaire or an interview as the survey instrument (Robson, 2002). The survey design was used to reveal summary statistics

by showing responses to all possible questionnaire items. The survey method was also used to explore the relationships between two or more of the variables in the study. Survey studies have a number of advantages. They are typically fast, cheap, and easy. The researcher is able to collect large amounts of data in a relatively short amount of time and it is also more flexible than some other methods. Although survey studies are good for investigating variables of interest, they do have some limitations. The study can be affected by an unrepresentative sample or poor survey questions. And most importantly, participants can affect the outcome by trying to please the researcher, lying to make themselves look better, or have mistaken memories (Burns & Grove, 2001).

4.4 Sample

Sampling is essential to a research study as it entails inferring information about an entire population without going to the trouble or expense of measuring every member of the population (Robson, 2002). Therefore, it is imperative that the proper sampling technique is developed so that the representativeness of the results is not affected. This researcher utilized opportunity sampling of the nurses (n=150) working in the different state hospitals in Windhoek, Rehoboth and Okahandja. It consisted of taking the sample from the nurses who were available at the time the study was carried out and all the nurses working in the state hospitals fit the criteria needed for the study. The entire process of sampling was done in a single step with each subject selected independently of the other members of the population. There was no bias as each nurse had an equal opportunity of being selected based on the

time the questionnaires were distributed to the nurses. The risk was that some participants declined to take part and therefore the participants chosen may have been a biased sample as those participants responding may be a particular type of person.

It was incumbent upon the researcher to rely on logic and judgment to define the target population. The population was defined in keeping with the objectives of the study. Ideally, the sample corresponded to the larger population on the characteristics of interest. The target population for this study were nurses working in state hospitals in Windhoek, Rehoboth and Okahandja. The Windhoek area included the two state hospitals, namely, the Windhoek Central State hospital and the Katutura state hospital. There is only one hospital in Okahandja and one hospital in Rehoboth as well. Each participant of the study had to be a) male or female, b) 18 years or older, c) working as a nurse in a state hospital in Windhoek, Rehoboth and Okahandja, irrespective of race or ethnicity. Nurses were recruited from all wards in each of the hospitals in the study.

4.5 Research Instruments

Four data collection instruments were used to operationalize the variables in this study. These were a researcher-developed demographic questionnaire, the Nursing Stress Indicator (NSI), the Utrecht Work Engagement Scale (UWES) and the Warwick- Edinburgh Mental Well-being Scale (WEMWBS).

4.5.1 Demographic Questionnaire

Burns and Grove (2001) state that demographic information is used to analyze and provide a picture of the sample, which is referred to as the sample characteristics. The *demographic questionnaire* (Appendix A) utilized in this research is a 10-item, researcher-developed measure. This was used to gather socio-demographic data such as gender, age, marital status, home language, number of years worked, department worked in and the registration category of the participants. The participants were instructed to tick the appropriate box or the one that was best applicable to them.

4.5.2. Nursing Stress Indicator (NSI)

4.5.2.1 Rationale and Description of Instrument

The *Nursing Stress Indicator* (NSI) (Appendix B) (Rothman, Van der Colff & Rothmann, 2006) was used to determine the levels of stress of nurses in this study. This instrument was developed by Rothmann, Van der Colff and Rothmann (2006), researchers at the North-West University, in South Africa. In the first part of the questionnaire, participants rate each of the 58 statements in terms of the perceived intensity of the particular stressor on a nine-point scale, ranging from 1 (*low*) to 9 (*high*). In the second part of the questionnaire, the participants are asked to respond to each of the same 58 statements in terms of the perceived frequency of experienced stressors over the past six months on a 10-point scale ranging from 0 (*no days*) to 9+ (*more than 9 days*).

4.5.2.2 Administration, Scoring and Interpretation of Instrument

According to Rothmann, van der Colff and Rothmann (2006), responses are averaged to provide a total intensity of stress score and a total frequency of stress score. In the first part of the questionnaire, the first event, assignment of disagreeable duties *e.g. tasks assigned to you that you don't want to do*, was rated by persons in a variety of occupations as producing an average amount of stress. This event was given a rating of "5" and was used as the standard for evaluating each event. Each of the following events was to be compared with this standard. The participant is asked to assign a number from "1" to "9" to indicate whether they judge the event to be less or more stressful than being assigned disagreeable duties. Scores from "1" to "3" indicate low stress, "4" to "6 "indicates average to moderate stress and "7" to "9+", indicates high to extreme stress levels.

In the second part of the questionnaire, the participant is required to indicate the approximate number of days during the past 6 months on which they had personally experienced the event. For example, if the participant experienced the event listed on 4 days during the past six months, they cross out the "4". If the event had not been experienced on any days during the past six months, the participant was to cross out the "0". If the event was experienced on 9 or more days during the past six months, they cross out the "9+". The NSI gives an overall assessment of the intensity of stress experienced by the nurses and a total of the frequency of the stress experienced in their hospitals. The NSI has five reliable stress factors, namely Patient Care, Job

Demands, Lack of Support, Staff Issues, and Overtime. Each of the 58 statements are grouped under these 5 stress factors.

4.5.2.3 Reliability and Validity of Instrument

Rothman, Van der Colff and Rothmann (2006) utilized the SAS program to carry out statistical analyses regarding the reliability and construct validity of the NSI. Principal component extraction with a varimax rotation was carried out through SAS FACTOR on the 124 items of the NSI for a sample of 1780 professional, enrolled and auxiliary nurses. Cronbach alpha coefficients and inter-item correlations were used to assess the internal consistency of the measuring instrument. In addition, T-tests were used to determine differences between professional nurses on the one hand and enrolled and auxiliary nurses on the other hand. A cut-off point of d= 0.50 (medium effect, Cohen, 1988) was set for the practical significance of differences between means. The cronbach's alpha of the five extracted factors of the NSI are highly acceptable when compared to the guideline of 0.70 (Nunnally & Bernstein, 1994). The mean inter-item correlation coefficients are in the recommended range ($0.15 < r < 0.50$) (Clark & Watson, 1995).

4.5.2.4 Motivation for Inclusion

Although the NSI is relatively a lengthy instrument with a total of 116 items, it a comprehensive measurement of nursing stresses. This instrument was selected primarily because it was designed to measure the intensity and frequency of nursing stressors. It was also selected because it was developed by researches in the North-West University of South Africa (Rothmann, Van der Colff & Rothmann, 2006). It was developed in Southern Africa and as the socio-demographic features of the population of South Africa are similar to that of Namibia, it was deemed a befitting instrument to use for this study. It has also been used in other studies in Southern Africa (Rothman, Van der Colff & Rothmann, 2006; Van der Colff & Rothmann, 2009).

4.5.3 Utrecht Work Engagement Scale (UWES)

4.5.3.1 Rationale and Description of Instrument

The *Utrecht Work Engagement Scale* (UWES) (Appendix C) (Schaufeli *et al.*, 2002a) was used to measure the levels of engagement among the nurses in the study. The UWES is a 17-item instrument scored on a seven point likert scale, ranging from 0 (*never*) to 6 (*every day*). Three dimensions of engagement can be distinguished, namely Vigor (six items; e.g. ‘I am bursting with energy in my work’), Dedication (five items; e.g. ‘I find my work full of meaning and purpose’) and Absorption (six items; e.g. ‘When I am working, I forget everything else around me’).

Validity studies that have been carried out with the UWES show that work engagement is indeed negatively associated with burnout, albeit that the relationship between Vigor and exhaustion and between Dedication and cynicism is somewhat less strong than was expected. Furthermore, engagement can be discriminated from workaholism. Particularly job resources that act as motivators seems to cause work engagement, whereas engaged employees exhibit positive job attitudes, experience good mental health, and seem to perform better than those who are less engaged. Finally, engagement is not restricted to the individual as it may crossover to others, thus leading to what has been labeled collective engagement.

4.5.3.2 Administration, Scoring and Interpretation of Instrument

The UWES measures, in particular three constituting aspects of work engagement, namely, Vigor, Dedication and Absorption. Vigor is assessed by six items that refer to high levels of energy and resilience, the willingness to invest effort, not being easily fatigued, and persistence in the face of difficulties. The instruments indicates that participants who score high on Vigor usually have much energy, zest and stamina when working, while those who score low on Vigor have less energy, zest and stamina when it comes to their work. Dedication is assessed by five items that refer to gaining a sense of significance from one's work, feeling enthusiastic and proud about the job, and feeling inspired and challenged by it. High scores on Dedication indicate that the participant strongly identifies with their work, and experience it as meaningful, inspiring, and challenging. These individuals usually feel enthusiastic and proud about their work. Those who score low do not identify

with their work because they do not experience it to be meaningful, inspiring, or challenging. Moreover, they feel neither enthusiastic nor proud about their work.

The UWES measures Absorption, which is assessed by six items that refer to being totally and happily engrossed in one's work. These individuals have difficulties detaching oneself from it so that time passes quickly and one forgets everything else that is around. Those who score high on Absorption feel that they usually are happily engrossed in their work, they feel immersed by their work and have difficulties detaching from it because it carries them away. As a consequence, everything else around is forgotten and time seems to fly. Those who score low on Absorption do not feel engrossed or immersed in their work, they do not have difficulty detaching from their work, neither do they forget everything around them, nor time (Schaufeli & Bakker, 2003).

4.5.3.3 Reliability and Validity of Instrument

For factorial validity of the UWES, confirmatory factor analyses show that the hypothesized three-factor structure of the instrument is superior to the one-factor model and fits well to the data of various samples from The Netherlands, Spain and Portugal (Salanova, Schaufeli, Llorens, Pierό & Grau, 2001; Schaufeli et al., 2002b; Schaufeli, Martínez, Marques-Pinto, Salanova & Bakker, 2002; Schaufeli, Taris & Van Rhenen, 2003). There is however one exception, using explorative factor analyses, Sonnentag (2003) did not find a clear three-factor structure and decided to use the total-score on the UWES as a measure for work engagement.

The internal consistency of the three sub-scales of the UWES is good and the values of cronbach's alpha are equal to or exceed the critical value of .70 (Nunnaly & Bernstein, 1994). There are inter-correlations in the UWES, although according to confirmatory factor analyses it seems to have a three-dimensional structure, these three dimensions are closely related. Correlations between the three scales usually exceed .65 (Demerouti et al., 2001; Salanova et al., 2000; Schaufeli et al., 2002), whereas correlations between the latent variables range from about .80 to about .90 (Salanova et al., 2000; Schaufeli et al., 2002). The UWES is cross-national invariant. The factor structure of the slightly adapted student version of the UWES is largely invariant across samples from Spain, The Netherlands and Portugal (Schaufeli et al., 2002b).

Detailed analyses showed that the loadings of maximum three items differed significantly between the samples of the three countries. The internal consistency of the three scales of the UWES is good. That is, in all cases values of cronbach's alpha are equal to or exceed the critical value of .70 (Nunnaly & Bernstein, 1994). Usually values of cronbach's alpha for the scales range between .80 and .90 (Salanova, Grau, Llorens & Schaufeli, 2001; Demerouti et al., 2001; Montgomery, Peeters, Schaufeli & Den Ouden, 2003; Salanova, Bresco & Schaufeli, 2003a; Schaufeli, Taris & Van Rhenen, 2003; Salanova, Carrero, Pinazo & Schaufeli, 2003b). Scores on the UWES are relatively stable across time. Two, year stability coefficients for Vigor, Dedication and Absorption are .30, .36, and .46, respectively (Bakker, Euwema, & Van Dierendonk, 2003).

4.5.3.4 Motivation for Inclusion

The UWES is used in this study to assess the work engagement of nurses in the three dimensions as stated above. According to Schaufeli and Bakker (2003), the UWES has satisfactory psychometric properties as the three sub-scales are internally consistent and stable across time. The three-factor structure is confirmed, and seems to be invariant across samples from different countries. Engagement as measured with the UWES is negatively related to burnout, albeit that instead of loading on burnout, professional efficacy loads on engagement, engagement is very weakly positively related to age.

Since its introduction in 1999, a number of validity studies have been carried out with the UWES that uncover its relationship with burnout and workaholism. These studies identify possible causes and consequences of engagement and expound on the role that engagement plays in more multifarious processes that are related to workers' health and well-being (Salanova et al., 2003; Demerouti et al., 2001; Schaufeli et al., 2002a; Schaufeli et al., 2003). This instrument has been widely used worldwide, including countries in Southern Africa (Brand-Labuschagne, Mostert, Rothmann & Rothmann, 2012; Goliath-Yarde & Roodt, 2011; Naude & Rothmann, 2004; Naude & Rothmann, 2006; Rothmann & Rothmann, 2010; Storm & Rothmann, 2003).

4.5.4 Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

4.5.4.1 Rationale and Description of Instrument

The *Warwick-Edinburgh Mental Well-being Scale* (WEMWBS) (Stewart-Brown et al., 2008) (Appendix D) was used to establish the psychological well-being of the nurses in the study. It is a 14 positively worded item scale with five response categories from 'none of the time' to 'all of the time'. It has a time frame for assessment of the previous two weeks. It covers most aspects of positive mental health currently in the literature, including both hedonic and eudaimonic perspectives: positive affect (feelings of optimism, cheerfulness, relaxation), satisfying interpersonal relationships and positive functioning (energy, clear thinking, self-acceptance, personal development, mastery and autonomy). It does not include items specifically on life satisfaction, but hedonic well-being is well represented. Items are summed to give an overall score that will be presented as a mean score and graphically.

According to Stewart-Brown, Janmohamed and Parkinson (2008), The starting point for the development of the WEMWBS was the Affectometer 2, a scale developed in New Zealand in the 1980s which aimed to measure well-being and had intuitive appeal to those working in mental health fields in the UK, as it covered both eudemonic and hedonic aspects of mental health and had a good range of positive items. This scale comprised 20 statements and 20 adjectives relating to mental health in which positive and negative items are balanced. The UK validation of Affectometer 2 reported good face validity, favorable construct validity with

comparable scales, good discriminatory powers between different population groups and appropriate test-retest reliability over time.

The authors further espouse that the Affectometer 2 also had important limitations, its very high level of internal consistency (r = .94) suggested redundancy, its susceptibility to social desirability bias was higher than that of other comparable scales and its length was a potential barrier to its uptake as a measure of population well-being. This created a desire to develop a new scale of mental well-being with a single underlying construct that encompassed a broad range of attributes associated with mental well-being and to validate this scale (WEMWBS) using data collected from student and population samples.

4.5.4.2 Administration, Scoring and Interpretation of Instrument

Individuals completing the WEMBWS scale are required to tick the box that best describes their experience of each statement over the past two weeks using a 5-point Likert scale (none of the time, rarely, some of the time, often, all of the time). The Likert scale represents a score for each item from 1 to 5 respectively, giving a minimum score of 14 and maximum score of 70. All items are scored positively. The overall score for the WEMWBS is calculated by totaling the scores for each item, with equal weights. A higher WEMWBS score therefore indicates a higher level of mental well-being.

4.5.4.3 Reliability and Validity of Instrument

In a study carried out by Tennant et al. (2007), internal consistency of the WEMWBS was assessed using cronbach's alpha. Criterion validity was explored in terms of correlations between WEMWBS and other scales and by testing whether the scale discriminated between population groups in line with pre-specified hypotheses. Test-retest reliability was assessed at one week using intra-class correlation coefficients. The authors further revealed that susceptibility to bias were measured using the Balanced Inventory of Desired Responding. WEMWBS showed a low correlation with both subscales of the Balanced Inventory of Desirable Responding. This contrasts with Affectometer 2, where self-deception bias was a major disadvantage of the scale. WEMWBS also performed better than three comparison mental health scales on impression management and better than two on self-deception.

Stewart-Brown et al. (2008) reported that WEMWBS showed good content validity. Confirmatory factor analysis supported the single factor hypothesis. A cronbach's alpha score of .89 (student sample) and .91 (population sample) suggested some item redundancy in the scale. However, WEMWBS showed high correlations with other mental health and well-being scales and lower correlations with scales measuring overall health. Its distribution was near normal and the scale did not show ceiling effects in a population sample. It discriminated between population groups in a way that is largely consistent with the results of other population surveys. Test-retest reliability at one week was high (.83). Social desirability bias was lower or similar to that of other comparable scales.

4.5.3.4 Motivation for Inclusion

The WEMWBS was used in this study to assess the psychological well-being of nurses in state hospitals in Windhoek, Rehoboth and Okahandja. This author sought to use the Affectometer 2 as it has been used in various studies in Southern Africa (Ferreira, 2007; Malebo, 2004; Smith, 2007; Wissing, Thekiso, Stapelberg, Van Quickelberge et al., 2010). However, due to the redundancies mentioned above, and other factors discussed below, the WEMWBS which was developed from the Affectometer 2 was seen as a better option to use for this study.

According to Tennant et al. (2007), the WEMWBS was developed by a panel of experts which drew on existing academic literature, qualitative research with focus groups, and psychometric testing of the Affectometer 2. This was then validated on a student and representative population sample. Content validity was assessed by reviewing the frequency of complete responses and the distribution of responses to each of the items. Confirmatory factor analysis was used to test the hypothesis that the scale measured a single construct. Tennant, Fishwick, Platt, Joseph and Stewart-Brown (2006) state that the WEMWBS had moderate to high levels of construct validity with the other comparable scales, and mean scores remained relatively stable over a one week period. It also had a lower measure of response bias than that of the Affectometer 2 and many other mental health scales).The authors further revealed that the internal consistency of the WEMWBS suggested less risk of item redundancy than that of the Affectometer 2. Correlations with other measures were as predicted.

4.6 Data Collection Procedure

Letters were written to the administrators of the Nursing Stress Inventory and the Warwick-Edinburgh Mental Well-being Scale, requesting the use of their research instrument. Permission was granted to use both research instruments. The Utrecht Work Engagement Scale is a free to use scale if used for research purposes, so no permission was required to use this particular instrument.

A written letter requesting permission to conduct the study at the state hospitals, together with the research proposal and copies of the research instruments were sent to the Offices of the Permanent Secretary. After perusal by the Research Ethics committee of the Ministry of Health and Social Services, a letter of permission (Appendix E) to carry out the study at the four hospitals, namely, Windhoek Central State Hospital, Katutura State Hospital, Okahandja State Hospital and Rehoboth's St Mary's Hospital was granted.

The first point for data collection was the Windhoek Central State hospital. This hospital has two matrons responsible for the two main sections of the hospital; one matron for the general wards such as the medical and surgical wards and one matron responsible for the specialised wards such as psychiatric and maternity wards. After seeing the letter of permission from the Permanent Secretary of the Ministry of Health and Social Services, the matron for the general wards gave her support and cooperation for the data collection and agreed to take the questionnaires and help distribute them in her different wards.

Envelopes (with the questionnaires) were given to the matron to distribute to two or three nurses in each ward. This was to ensure that any nurse working in the wards at the time of distribution had an opportunity to answer the questionnaires. Each envelope contained an information letter (Appendix F), explaining what the research was about, with a strip at the bottom for each participant to sign, giving consent to participate in the study. Each envelope also included a demographic questionnaire, the Nursing Stress Indicator (NSI), the Utrecht Work Engagement Scale (UWES) and the Warwick-Edinburgh Mental Well-being scale (WEMWBS). The nurses were given two weeks to complete the questionnaires and to return it to the matron's office. The completed questionnaires were replaced inside the envelope and placed into a marked box, provided by the researcher. After two weeks, the researcher picked up the marked box from the matron's office.

The matron of the specialised units requested for another letter of approval from the Medical Superintendent's of the Windhoek Central State Hospital for the research to be carried out in the hospital. The letter of permission from the permanent secretary was then taken to the medical superintendent's office. Herewith the medical superintendent wrote another letter (Appendix G) giving approval for the study to be conducted in the said hospital. With the letter of approval from the Medical Superintendent, the matron of the specialised unit agreed to assist and took questionnaires to distribute to the nurses in her ward. These nurses were also given a date, two weeks away, in which the questionnaires were to be completed, replaced in their envelopes and given to their matron, who placed them in the designated,

marked box. The box of questionnaires was picked up from the matron’s office after the given date.

To gather data from Okahandja State Hospital, the researcher went to the town of Okahandja, which is in the Otjozondjupa region, located about 70 kilometres away from Windhoek. After locating the hospital, the researcher spoke to the matron, who offered her assistance in distributing the questionnaires to the nurses in her hospital. The nurses were given a date, two weeks away, ample time to complete the questionnaires and drop it off in the designated marked box, which was placed on the desk in the reception. Two weeks later, the questionnaires were picked up from the hospital.

The next hospital data was collected from was the Katutura State Hospital, located in Windhoek. After consulting with the matron of the hospital, the researcher was referred to the staff nurse in charge of students conducting research in the hospital. The staff nurse distributed two to three questionnaires in each ward of the hospital. The nurses were given two weeks to complete the questionnaires and to return it to the staff nurse’s office. The completed questionnaires were then placed in the designated marked box for collection by the researcher.

Data was collected from the Rehoboth St Mary’s Hospital. Although a Roman Catholic hospital, it has a state side as well. The researcher went to Rehoboth, which is in the Hardap region, 90 kilometres from Windhoek. The matron at the hospital gave her approval to collect the data from the hospital, after which the researcher distributed questionnaires to all the wards (State side) in the hospital. The procedure for the collection of questionnaires was similar to the previous hospitals.

4.7 Research Ethics

An information letter (Appendix F) accompanied the questionnaires, informing all prospective participants about the procedures involved in the study. Each participant gave their written consent to participate in the study by signing a strip of paper at the end of the information letter. It was made clear to the participants that participation in the research was completely voluntary and no coercion was used to enlist their assistance. It was indicated in the information letter that there would be strict anonymity as the participants remain anonymous throughout the study - even to the researcher. The participants were asked not to write their names on the questionnaires. All personal details of the participants were dealt with confidentially and any identifying information was not made available to anyone who was not directly involved in the study.

This study did not represent any appreciable risks to physical or psychological safety to the participants. Moreover, all of the participants had the absolute right to withdraw from the study for whatever reason up until the point at which the questionnaires were returned to the researcher. Furthermore, any participant could refuse to answer any question regardless of the reason. The participants were also informed that by completing and returning the questionnaires, they were providing the researcher with their consent to participate in this study.

4.8 Data Analysis

This is used to describe how the data will be presented in the results section (e.g, mean vs. median, standard deviations), which statistical tests were used for the inferential data, and what p value was deemed to indicate a statistically significant difference. Microsoft Excel with the Analysis Toolpak add-in, which offers robust basic statistical analysis comparable to statistical software such as the Statistical Package of the Social Scientists (SPSS) as well as SPSS for Windows, Student Version 19.0, was utilized to analyze the quantitative data (Zagumny, 2001). Descriptive statistics were utilized to describe the sample characteristics and to evaluate whether the results were normally distributed. Pearson's correlation coefficients were used to determine the strength and direction of relationships between variables. Also, cronbach's alpha was computed to estimate the internal consistency of each of the three instruments.

4.9 Summary of Methodology

This section was to elucidate the methods used in the information gathering process in order to answer the research questions in this study. The section was an essential part of the paper as it aimed to provide the reader with the information needed to judge the validity of this study. It was therefore imperative that a clear and concise description of how the experiment was done and the rationale for specific experimental procedures were provided.

The instruments used in this study were a researcher designed demographic data survey questionnaire, the Nursing Stress Inventory, the Utrecht Work Engagement Scale and the Warwick-Edinburgh Mental Well-being Scale. Data was collected from all four State hospitals in the Khomas, Otjozondjupa and Hardap regions, namely, the Windhoek Central State Hospital, Katutura State Hospital, the Okahandja State Hospital and the Rehoboth St. Mary's Hospital. A convenience sampling of nurses was used to gather data from the hospitals.

The researcher protected the prospective participants' information through the use of informed consent. Essentially, this means that prospective research participants were fully informed about the procedures and risks involved in the research and gave their consent to participate. Involvement in this study was strictly voluntary and in addition to the participants' informed consent, the participants were also guaranteed confidentially, which means they were assured that identifying information would not be made available to anyone who was not directly involved in the study. The data gathered was analysed using both descriptive and inferential statistics.

The following chapter focuses on the results of the data analysis gleaned from the research participants in this study. The data were collected and then processed in response to the questions posed in chapter one of this thesis.

CHAPTER FIVE

RESULTS

5.1 Introduction

This chapter is the presentation of the results of this study. Microsoft Excel with the Analysis Toolpak add-in, which offers robust basic statistical analysis comparable to dedicated statistical software such as Statistical Package of the Social Scientists (SPSS), together with the Statistical Package of the Social Scientists (SPSS) for Windows, Student Version 19.0, was utilized to analyze the quantitative data. Once the surveys were received from the participants, the data was immediately entered into an Excel spreadsheet with data validation to accommodate only entries reflecting established data codes.

Descriptive statistics were utilized to describe the sample characteristics and to evaluate whether the results were normally distributed. Inferential statistics such as Pearson's correlation coefficients as well as t-tests and ANOVA's were used to determine the strength and direction of relationships among variables. T-tests were used to determine the practical significant differences between enrolled nurses and registered nurses for their stress, work engagement and psychological well-being. A cut-off point of d= 0,50 (medium effect, Cohen, 1988) was set for the practical significance of differences between means. In addition, cronbach's alpha was utilized to estimate the internal consistency of each of the three instruments, including the demographic questionnaire.

As discussed in chapter one, the first aim of this study was to determine the levels of stress of nurses at state hospitals in Windhoek, Rehoboth and Okahandja, using the NSI. The second aim of this study was to investigate the levels of Work engagement of nurses at state hospitals in Windhoek, Rehoboth and Okahandja, using the UWES. The third aim of the study was to determine the levels of psychological well-being of nurses at state hospitals in Windhoek, Rehoboth and Okahandja, using the WEMWBS. The fourth aim of this study was to determine the relationships between stress, work engagement and the psychological well-being of the nurses in Windhoek, Rehoboth and Okahandja. The fifth aim of this study was to determine the relationships between the demographic characteristics of the nurses and their stress, work engagement and psychological well-being.

5.2 Data Analysis

The data was analyzed according to the five aims and objectives of the study. The researcher employed the services of an expert research consultant to assist with the analysis of the data obtained during this study.

5.2.1 Demographic Data

A total of 150 survey packages (consisting of the demographic questionnaire, NSI, UWES, and WEMWBS) were delivered to the participants in this study. Ninety-eight (98) of the surveys were returned. This number represents a 65% response rate. There was a 100% item response rate on all the survey instruments, with the exception of seven (7) NSI questionnaires which had one (1) item not completed, and

one (1) NSI questionnaire which had two (2) items not completed. There were two (2) UWES questionnaires which had one item not completed, and one WEMWBS with one (1) item not completed. A brief non-standardized demographic questionnaire was constructed to gather demographic and background information from the participants. The questions included in this questionnaire were based on the necessary demographic information needed for more meaningful and rich interpretation of the research findings as is revealed in the following table, graphs and charts. Although the demographic questionnaire is not the focus of the study, the researcher felt it important to describe the sample in terms of the variables discussed in the literature chapters of this study.

Table 1: City and hospital of the sample (n = 98)

City and Hospital		Number (n)	Percentage (%)
Windhoek	Windhoek Central State Hospital	29	29.6
	Katutura State Hospital	24	24.5
Rehoboth	Rehoboth St. Mary's Hospital	32	32.7
Okahandja	Okahandja State Hospital	13	13.3
	Total	**98**	**100**

Table 1 is a frequency distribution of the sample in this study. The sample consisted of 29 nurses working at the Windhoek central state hospital in Windhoek. 24.5% of the sample consisted of nurses working at the Katutura state hospital. In total, 54.1%

of the sample were from Windhoek. The remaining nurses in the sample were from Rehoboth St. Mary's hospital, consisting of 32 nurses and 13 nurses from the Okahandja state hospital. In total, the sample of this study was n = 98.

The results of the demographic features of the sample are presented in Table 2 below. These data mostly confirm known proportions of the different demographic features, based on available data (DHS 2006, Health and Social Services Review 2008).

Table 2: Characteristics of nurses in the sample (n= 98)

Item	Category	Frequency	Percentage
Gender	Male	19	19
	Female	79	81
Age	20-29	27	28
	30-39	24	24
	40-49	30	31
	50-59	15	15
	60-69	2	2
Marital Status	Single	29	30
	Married	58	59
	Divorced	9	9
	Separated	2	2

Language	English	19	19
	Afrikaans	29	30
	Oshiwambo	21	21
	Herero	11	11
	Damara/Nama	12	12
	Others	6	6
City	Windhoek	53	54
	Rehoboth	32	33
	Okahandja	13	13
Hospital	Windhoek Central State Hospital	29	30
	Katutura State Hospital	24	24
	Okahandja State Hospital	13	13
	Rehoboth St. Mary's Hospital	32	33
Years employed	0-5	31	32
	6-10	18	18
	11-15	9	9
	16-20	9	9
	21-25	15	15
	26-30	8	8
	31>=	8	8
Unit	Psychiatric	6	6

	Maternity	18	18
	Pediatric	15	15
	Oncology	4	4
	Other	55	56
Ward	Medical	67	68
	Surgical	21	21
	TB	10	10
	Other	0	0
Education	Certificate	29	30
	Diploma	56	57
	Degree	12	12
	Post Graduate	1	1
Rank	Enrolled Nurse	31	32
	Registered Nurse	65	66
	Student	1	1
	Other	1	1

Table 2 shows that 81% of the sample were female and 19% of the sample were male. It can therefore be inferred that there are more females than males working in state hospitals in Windhoek, Rehoboth and Okahandja, which is generally reflective of proportions of gender based on the nursing population in the country (3% male,

97% female, WHO 2002:33). According to Wissing and Van Eeden (1997), males had a higher level of subjective well-being than females in the South African context, this study arrives at the same findings for the Namibian sample population with males having an average total WEMWBS score of 53.3 compared to females at 52.4.

Myers and Diener (1997) discovered that women's happiness depended on marital happiness whilst men's happiness related to satisfaction at work. This study, conducted within the Namibian context, points to married men expressing superior psychological well-being with an average total WEMWBS mean score of 56, and women who are separated from their partners, having the better WEMWBS average mean score at 56.5. Most of the nurses in the sample are between the ages of 40 and 49, followed closely by those aged between 20 to 29 years. This is followed closely by those within the age ranges of 30-39. The data shows no correlation between age and any of the factors measuring stress, work engagement and psychological well-being.

The data revealed that there are more married nurses than separated or divorced nurses, followed by 30% who are single. Studies have shown that married couples experience a greater degree of happiness than their single counterparts who had never married or were divorced (Diener, 2000). The data points to a relationship between the marital status of a nurse and the amount of stress[1], with married nurses experiencing the most stress with an average NSI score of 5.41, followed by those divorced and then singles, with those separated from their partners having the least

[1] Amount of stress refers to the first part of the NSI, which rates the intensity of stress nurses experience in their work.

stress with an average score of 3.39; the relationship between marital status and frequency of stress is restricted to only two factors (staffing issues and overtime), thus nurses experience stress relating to staffing issues and overtime with varying frequency based on their marital status.

Most of the nurses in the sample speak Afrikaans as their home language, which is followed closely by Oshiwambo speakers. English was below the two with a percentage of 18%. The data did not reveal any significant relationship between the nurses' language and their stress or psychological well-being. The majority of the nurses (32%) working in the state hospitals have been working in the profession for a maximum of five years. About 18% of the sample were working for 6 to 10 years in the profession. Incidentally, 18% of the sample were also working in the nursing profession for between 21 to 25 years. Those who have served less than ten years in the profession make up just less than 50%.

According to the analysis in this study, most of the nurses in the sample do not work in specialised units as is illustrated in graph 4. The majority of nurses work in 'other' which constitutes; general, heart units and casualty. Nurses working in the psychiatric unit experienced the most stress with an average NSI score of 6.26, followed by oncology with 5.93, with maternity experiencing the least amount of stress at an average NSI score of 4.77.

The data revealed that the majority of the sample work in the medical ward of their hospitals. The TB ward had an average NSI score of 5.66, the surgical ward 5.40,

and the Medical ward had 5.36. Fifty- seven (57) percent of the nurses in the study have a diploma in nursing, followed by 30% of those who have a certificate in nursing. Only 1% of the participants had any post graduate qualification. In addition, the majority of the nurses working in the state hospitals in Windhoek, Rehoboth and Okahandja are registered nurses.

5.2.2 Research Objective #1: Determine the Stress levels of Nurses in State Hospitals in Windhoek, Rehoboth and Okahandja

The objective of the first research question was to determine the levels of stress of nurses at the state hospitals in Windhoek, Rehoboth and Okahandja. The Nursing Stress Inventory (NSI) was designed to first rate the intensity of stress of the participants, and secondly, to rate the frequency of stressful events. A statistical process was undertaken to analyse the scores of the fifty-eight (58) items on all of the completed questionnaires of NSI. Each of the NSI's 58 questionnaire items has been placed under five descriptive stress factors. The cronbach's alpha of the NSI in this study was .83 for the intensity of stress and .77 for the frequency of stressors. These indicate that the reliability of the NSI in this study is well within the acceptable range.

The descriptive statistics for each of the item's scores, (means and standard deviations) for nurses in the study have been presented in Table 3. Appendix H displays a table showing descriptive statistics of the differences between the severity of stress between enrolled and registered nurses in the study. Stressors that showed a medium intensity and frequency (means ranging from 4.00 to 6.00) can typically be

placed under the description of chronic stressors. Severity is expressed as the product of the intensity and frequency of the items.

Table 3: Descriptive statistics of stressor intensity and frequency items of the nurses

Item	**Intensity**		**Frequency**		***Severity***
	Mean	*SD*	*Mean*	*SD*	
STRESS : PATIENT CARE	5.20	1.75	4.60	2.00	23.94
Death of a patient with whom you have developed a close relationship	5.11	3.03	4.15	3.04	21.23
Watching a patient suffer	5.74	2.78	4.64	3.00	26.67
Death of a patient	5.48	2.81	4.42	3.14	24.21
Making a mistake when treating a patient	5.10	3.01	3.90	2.93	19.89
Communicating with a patient about death	5.03	2.61	4.79	3.24	24.08
Disagreement with medical practitioner or colleague concerning the treatment of a patient	4.79	2.82	4.40	3.05	21.05
Patients who fail to improve	5.31	2.57	4.90	3.04	25.99
Inadequate information from a medical practitioner regarding the medical condition of the patient	4.76	2.69	4.53	3.06	21.54
Personal insult from family	6.05	2.81	5.53	2.96	33.47
Caring for emotional and spiritual needs of patients/family	4.67	2.78	4.76	2.97	22.22

Item	Intensity		Frequency		*Severity*
STRESS : JOB DEMANDS	5.18	1.20	4.80	1.65	24.83
Demands of clients/patients	5.44	2.58	5.32	3.05	28.93
Stock control in the ward/unit/institution	5.10	2. 70	4.77	3.04	24.31
Language and communication barriers with clients/patients	5.50	2.54	4.82	2.98	26.49
Adhering to the budget of the hospital/institution	4.94	2.90	4.21	3.03	20.77
Dealing with other health care professionals (e.g. dieticians, social workers, pharmacists)	5.37	2.58	4.79	3.11	25.69
Management of staff	5.01	2.75	5.13	3.10	25.72
Dealing with difficult patients	5.83	2.68	5.09	3.00	29.67
Excessive involvement in committee meetings	4.15	2.80	4.57	3.09	19.00
Meeting deadlines	5.08	2.84	4.43	3.28	22.50
Frequent changes from boring to demanding activities	5.25	2.68	5.04	3.16	26.44
Security risk posed in area where your job is located	5.37	2.87	4.99	3.17	26.78
Health risk posed by contact with patients	6.20	2.67	5.74	3.16	35.55
Assignment of disagreeable duties	4.55	1.72	4.21	3.08	19.18
Assignment of new/unfamiliar duties	4.41	2.49	3.63	2.80	16.00
Dealing with crisis situation	5.37	2.16	4.65	3.00	24.97

Item	Intensity		Frequency		*Severity*
Performing painful procedures	5.36	2.54	5.77	3.00	30.89
Operating specialized equipment	5.07	2.90	4.32	2.83	21.89
STRESS : LACK OF SUPPORT	5.40	1.38	4.73	1.67	25.55
Difficulty getting along with supervisor/manager	5.34	2.74	4.08	2.90	21.78
Poor or inadequate supervision/management	4.89	2.75	5.04	3.05	24.64
Inadequate support by supervisor/manager	5.23	2.49	4.63	2.92	24.25
Conflict with a supervisor/manager	4.65	2.73	3.98	3.02	18.52
Experiencing negative attitudes towards the organization	5.16	2.72	4.41	2.79	22.76
Lack of support from colleagues	4.89	2.71	4.07	2.99	19.90
Inadequate or poor quality equipment	6.06	2.68	5.26	3.00	31.85
Lack of recognition for good work	6.11	2.50	5.76	3.12	35.18
Lack of participation in policy-making decisions	5.55	2.78	5.10	3.24	28.32
Lack of opportunity to talk openly with other staff members	5.24	2.70	4.60	3.01	24.12
Lack of opportunity for advancement	5.09	2.56	4.87	3.23	24.78
Assignment of increased responsibility	5.79	2.71	5.02	3.03	29.05

Item	Intensity		Frequency		*Severity*
Periods of inactivity	4.30	2.86	3.92	3.01	16.83
Excessive paperwork	6.54	2.43	5.41	3.29	35.35
Insufficient personal time	5.76	2.61	5.12	3.03	29.48
Conflicts with other departments/divisions	5.27	2.80	5.08	3.09	26.76
Criticism by supervisor	5.91	2.66	4.10	2.90	24.24
STRESS : STAFF ISSUES	5.94	1.39	5.25	1.85	31.20
Insufficient personnel to handle workload	6.50	2.53	5.58	2.96	36.28
Shortage of staff	7.08	2.49	6.30	2.85	44.59
Poorly motivated co-workers	6.34	2.25	5.03	3.05	31.88
Insufficient time to perform tasks	5.90	2.33	4.62	2.92	27.26
Fellow workers not doing their job	5.48	2.19	4.97	2.97	27.23
Covering work for another employee	5.68	2.60	5.03	3.22	28.60
Inadequate salary	6.34	2.82	6.02	3.15	38.15
Competition for advancement	4.76	3.00	4.87	3.24	23.14
Frequent interruptions	5.45	2.73	4.83	3.24	26.32
STRESS : OVERTIME	5.44	1.70	5.08	1.96	27.60
Working overtime	4.64	2.32	5.41	3.05	25.11
Irregular working hours	6.27	2.78	5.41	3.00	33.88
Floating to other units that are short of staff	5.40	2.71	4.42	3.03	23.85

Table 2 shows that the stress factors that cause the most severe stress among nurses can be attributed to Staff Issues (31.20), followed by Overtime (27.60), Lack of Support (25.55), Job Demands (24.83), and finally Patient Care (23.94). In the Patient Care NSI factor the *personal insult from family* item, elicits the most severe stress, which at 33.47 is far above the factor average. *Health risk posed by contact with patients* (35.55) accounted for the most severe stress in the Job Demands factor, under the Lack of Support factor, *excessive paperwork* (35.18) caused the most severe stress. Under Staffing Issues, *shortage of staff* (44.59) was the most severe stressor in the whole NSI and *irregular working hours* (33.88) in the Overtime factor was the worst stressor for this factor.

The first factor, Patient Care, concentrates on the physical assistance nurses offer to patients. These are comprised of death of a patient with whom you have developed a close relationship, watching a patient suffer, death of a patient, making a mistake when treating a patient, communicating with a patient about death, disagreement with medical practitioner or colleague about the treatment of a patient, patients who fail to improve, inadequate information from a medical practitioner regarding the medical condition of the patient, personal insult from patients/family, and caring for the emotional/spiritual needs of the patients/family. According to Mawson (1994) and Obholzer and Roberts (1994) (as cited in Rothman and van der Colff, 2006), these items are seen as severe stressors, however, in this study, this factor caused the least stress among the nurses.

The results reveal that the strength of the relationship between the severity of stress when it comes to Patient care and the rank of a nurse was substantially lower than other stressors. There is however, still a relationship between the rank of a nurse and this factor. When comparing enrolled and registered nurses for this factor, there were some differences between their stress levels (see Table 3). The effect size between the items for this factor where relatively small, however, the results reveal that patients who fail to improve were more stressful for enrolled nurses.

Items on the second factor, Job Demands, are demands of clients/patients, stock control in the ward/unit/institution, language and communication barriers with clients/patients, adhering to the budget of the hospital/institution, dealing with other health care professionals (e.g. dieticians, social workers, pharmacists, management of staff, dealing with difficult patients, excessive involvement in committee meetings, meeting deadlines, frequent changes from boring to demanding activities, security risk posed in area where your job is located, health risk posed by contact with patients, assignment of disagreeable duties, assignment of new/unfamiliar duties, dealing with crisis situation, performing painful procedures, and operating specialised equipment.

Results of the analysis of these factors reveal that Job Demands is a significantly more stressful factor with health risk posed by contact with patients being the most severe stressful item for both enrolled and registered nurses. This was followed closely by stress due to performing painful procedures and dealing with difficult

patients. Meeting deadlines, dealing with crisis situations and stock control were significantly more stressful for registered nurses than for enrolled nurses.

Table 4: The significance of differences between intensity of stressors for enrolled and registered nurses

Item	Enrolled Nurses		Registered Nurses		*Cohen's d*
	Mean	*SD*	*Mean*	*SD*	
STRESS : PATIENT CARE	52.41	21.15	52.19	28.02	-0.01515232
Death of a patient with whom you have developed a close relationship	5.06	2.67	5.15	3.15	0.02985829
Watching a patient suffer	5.68	2.76	5.82	2.73	0.05058915
Death of a patient	5.68	2.44	5.42	2.92	-0.09501323
Making a mistake when treating a patient	4.84	2.84	5.25	3.04	0.13749297
Communicating with a patient about death	5.06	2.59	5.05	2.58	-0.00713765
Disagreement with medical practitioner or colleague concerning the treatment of a patient	5.00	2.78	4.71	2.80	-0.10505739
Patients who fail to improve	5.90	2.34	5.06	2.57	-0.33818382*
Inadequate information from a medical practitioner regarding the medical condition of the patient	4.48	2.73	4.91	2.63	0.16016676
Personal insult from family	6.03	2.67	6.11	2.81	0.02741582
Caring for emotional and spiritual needs of patients/family	4.68	2.73	4.71	2.79	0.01096431
STRESS : JOB DEMANDS	84.03	40.46	90.31	45.32	0.26082931
Demands of clients/patients	5.52	2.32	5.43	2.63	-0.03386193
Stock control in the ward/unit/institution	4.42	2.65	5.38	2.68	0.36321751*
Language and communication barriers with clients/patients	5.74	2.03	5.43	2.69	-0.12530033
Adhering to the budget of the hospital/institution	4.71	2.58	5.09	3.01	0.13337796
Dealing with other health care professionals (e.g. dieticians, social workers, pharmacists)	5.03	2.18	5.46	2.76	0.16628738
	Enrolled Nurses		**Registered Nurses**		***Cohen's d***
	Mean	*SD*	*Mean*	*SD*	
Management of staff	4.35	2.76	5.20	2.66	0.31508894*
Dealing with difficult patients	5.68	2.52	5.94	2.68	0.09975611
Excessive involvement in committee meetings	3.58	2.32	4.31	2.94	0.26457289
Meeting deadlines	4.10	2.59	5.45	2.85	0.4898885*

Frequent changes from boring to demanding activities	5.23	2.60	5.23	2.77	0.00183753
Security risk posed in area where your job is located	4.97	2.83	5.49	2.89	0.18339668
Health risk posed by contact with patients	6.87	2.29	5.92	2.70	-0.36982246
Assignment of disagreeable duties	4.32	1.13	4.58	1.89	0.15643148
Assignment of new/unfamiliar duties	4.06	2.45	4.57	2.55	0.20153664
Dealing with crisis situation	4.68	2.18	5.63	2.09	0.45131101*
Performing painful procedures	6.00	2.13	5.09	2.81	-0.36167631*
Operating specialised equipment	4.77	2.90	6.11	2.72	0.11270299
STRESS : LACK OF SUPPORT	87.59	45.51	92.66	45.26	0.22083958
Difficulty getting along with supervisor/manager	4.77	2.83	4.88	2.75	0.03720124
Poor or inadequate supervision/management	5.26	2.76	5.28	2.74	0.00691315
Inadequate support by supervisor/manager	4.42	2.39	5.55	2.47	0.23055665
Conflict with a supervisor/manager	4.87	2.96	4.51	2.66	-0.13234978
Experiencing negative attitudes towards the organization	5.58	2.56	4.91	2.79	-0.24880308
Lack of support from colleagues	4.39	2.65	5.00	2.68	0.46660092*
Inadequate or poor quality equipment	5.84	2.68	6.11	2.72	0.09992015
Lack of recognition for good work	6.00	2.54	6.08	2.49	0.03085077
Lack of participation in policy-making decisions	5.84	2.91	5.38	2.73	-0.16385962
Lack of opportunity to talk openly with other staff members	4.87	2.71	5.38	2.73	0.18964949
Lack of opportunity for advancement	4.87	2.55	5.11	2.56	0.09313576
Assignment of increased responsibility	4.97	2.82	6.11	2.61	0.42758953*
Periods of inactivity	4.19	2.73	4.38	2.95	0.06675678
Excessive paperwork	6.23	2.59	6.61	2.35	0.1584775
Insufficient personal time	5.52	2.44	5.78	2.69	0.10322167
Conflicts with other departments/divisions	4.29	2.62	5.65	2.78	0.49903549*
Criticism by supervisor	5.68	2.77	5.94	2.62	0.09825712
STRESS : STAFF ISSUES	51.29	23.1	53.99	23.12	0.21693816
Insufficient personnel to handle workload	6.52	2.23	6.43	2.68	-0.03369489
Shortage of staff	7.16	2.49	6.98	2.52	-0.07070403
Poorly motivated co-workers	5.94	2.20	6.46	2.26	0.23500539
Insufficient time to perform tasks	5.71	2.25	5.89	2.74	0.0792404
Fellow workers not doing their job	5.06	2.35	5.62	2.10	0.25331621
Covering work for another employee	5.00	2.45	5.91	2.61	0.35604174*
Inadequate salary	6.35	3.26	6.25	2.61	-0.03854889
	Enrolled Nurses		**Registered Nurses**		***Cohen's d***
	Mean	*SD*	*Mean*	*SD*	
Competition for advancement	4.65	2.98	4.82	2.97	0.05755875
Frequent interruptions	4.90	2.89	5.63	2.63	0.26684724
STRESS : OVERTIME	16.32	9,34	16.36	7.91	0.00906498

Working overtime	4.45	1.96	4.72	2.50	0.11640131
Irregular working hours	6.03	2.92	6.29	2.73	0.09352928
Floating to other units that are short of staff	5.84	2.50	5.35	2.68	-0.18578502

*Practically significant difference: $d > 0{,}30$ (small, medium effect)

These findings are in keeping with the well-known and influential job demands–control model (Karasek, 1979) and other authors reviewed in the literature (Barnett & Brennan, 2006; Pelfrene et al., 2002; Perrewe & Ganster, 2006), which states that job stress is predominantly caused by the combination of high job demands such as work overload and time pressure as well as low job control. Job demands has the most significant differences between registered and enrolled nurses with the highest differences being meeting deadlines, dealing with crisis situation, stock control, and health risk posed by contact with patients.

Factor three is on the stress that lack of support may cause nurses in their workplace. Items for this NSI factor are: difficulty getting along with supervisor/manager, poor or inadequate supervision/management, inadequate support by supervisor/manager, conflict with a supervisor/manager, experiencing negative attitudes towards the organisation, lack of support from colleagues, inadequate or poor quality equipment, lack of recognition for good work, lack of participation in policy-making decisions, lack of opportunity to talk openly with other staff members, lack of opportunity for advancement, assignment of increased responsibility, periods of inactivity, excessive paperwork, insufficient personal time, conflicts with other departments/divisions and criticism by supervisor.

These are stressors related to the psycho-social working environment of the nurses (Begat & Severinsson, 2006). Results revealed that lack of recognition for good work and excessive paperwork were the most severe of the stressors for this factor. There were several significant differences between stress levels for registered and enrolled nurses, with conflicts with other departments/divisions, assignment of increased responsibility and lack of support from colleagues showing the most stressful for registered nurses.

The fourth factor is related to staff issues that cause stress for nurses. These include insufficient personnel to handle workload, shortage of staff, insufficient time to perform tasks, fellow workers not doing their job, covering work for another employee, inadequate salary, competition for advancement and frequent interruptions. Among these, shortage of staff, insufficient personnel to handle workload and inadequate salary were the most severe stressors for both enrolled and registered nurses. Significant differences can be seen between the two categories of nurses with covering work for another employee being more stressful for registered nurses than for enrolled nurses.

The fifth factor is on stress relating to overtime. These items are; working overtime, irregular working hours and floating to other units which are short of staff. Results show that for all categories of nurses, irregular working hours was the most severe stressor. Floating to other units that are short of staff was a more severe stressor for enrolled nurses. The effect size for this factor was relatively small. Hence, there were no significant differences between enrolled and registered nurses for this factor.

5.2.3 Research Objective #2: Determine the levels of Work Engagement of Nurses in State Hospitals in Windhoek, Rehoboth and Okahandja

The second research question examined the levels of work engagement among nurses working in State hospitals in Windhoek, Rehoboth and Okahandja. The Utrecht Work engagement Scale (UWES) was utilized to determine the levels of work engagement among the nurses in the study.

Table 5: Descriptive Statistics of the Utrecht Work engagement Scale (UWES)

UWES Sub-scales	Mean	Standard Deviation	Kurtosis	Skewness
Vigor	4.16	1.01	2.39	-1.20
Dedication	4.77	0.95	5.79	-1.60
Absorption	4.41	1.00	3.56	-1.48

Table 4 shows the results of the UWES. It indicates that the work engagement of nurses working in state hospitals in Windhoek, Rehoboth and Okahandja is above average. With responses indicating these experiences as occurring "often", which is at least once a week. The results of the three sub-scales of the UWES were also analysed. When one compares the sub-scale mean scores, the participants fared best on the Dedication sub-scale (mean 4.77). This shows that the nurses are proud of their work, feel inspired and enthusiastic about it and have a general sense that their work is significant as well as challenging for them (Schaufeli et al., 2002).

The Absorption sub-scale refers to one's experience of concentrating fully and being happily engrossed in one's work. In such a case, time passes quickly and one has difficulties with detaching oneself from the work of interest. The nurses scored second highest (mean 4.41) on the scale. According to the results, the nurses scored lowest on Vigor (mean 4.16). This is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. It can therefore be inferred that the nurses in this study are slightly more dedicated than they are absorbed or have Vigor. In addition, the cronbach's alpha of this instrument was .89 which is well within the accepted range, ensuring the reliability of the UWES in this study.

Table 6: The significance of differences between work engagement factors for enrolled and registered nurses

	Enrolled Nurses		**Registered Nurses**		***Cohen's d***
	Mean	*SD*	*Mean*	*SD*	
Vigor	4.13	0.93	4.16	1.06	0.03517185
Dedication	4.82	0.86	4.745	1.01	-0.07797973
Absorption	4.30	1.04	4.46	1.00	0.15676817

*Practically significant difference: $d > 0{,}50$ (medium effect)

Table 6 shows the practical significance of difference between enrolled and registered nurses for the work engagement sub-scales. The effect size between the category of nurses was relatively small, hence enrolled and registered nurses, experienced similar levels of work engagement.

5.2.4 Research Objective #3: Determine the levels of Psychological Well-being of Nurses in State Hospitals in Windhoek, Rehoboth and Okahandja

The Warwick Edinburgh Mental Well-being Scale (WEMWBS) was used to examine the levels of psychological well-being of the nurses in the study. As discussed in chapter 4, the WEMWBS looks at mental well-being covering subjective well-being and psychological functioning, in which all items are worded positively and address aspects of positive mental health. The cronbach's alpha of this instrument was calculated and was far within the acceptable range.

Table 7: Descriptive statistics of the WEMWBS

Variable	Mean	Standard Deviation	Skewness	Kurtosis	Minimum	Maximum	Cronbach's alpha
WEMWBS	52.57	7.88	-0.69	0.17	30	66	0.88

Table 7 shows the results of the WEMWBS in this study. The scale in this instrument is scored by summing responses to each item answered on a 1 to 5 Likert scale. The minimum scale score is 14 and the maximum is 70. The mean WEMWBS score of 52.57, out of a possible 70, puts it in the 75 percentile range, indicating a relatively good psychological well-being situation among the nurses in the three towns covered by the study. These results were on par with the average population mean results in the Scotland studies (Stewart-Brown & Janmohamed, 2008).

Table 8: The significance of differences between psychological well-being for enrolled and registered nurses

	Enrolled Nurses		Registered Nurses		*Cohen's d*
	Mean	*SD*	*Mean*	*SD*	
WEMWBS	49.61	7.83	53.95	7.67	0.56508132*

*Practically significant difference: *d* > 0,50 (medium effect)

The practical significant difference of the psychological well-being between enrolled and registered nurses is displayed in Table 8. The analysis revealed that registered nurses experienced a more statistically significant level of psychological well-being than enrolled nurses. According to Cohen's guidelines, *d* would be considered a medium effect, meaning that 69% of the difference in psychological well-being can be attributed to registered nurses.

5.2.5 Research Objective #4: Determine the Relationships between Stress, Work Engagement and the Psychological Well-being of the Nurses in State Hospitals in Windhoek, Rehoboth and Okahandja

To determine the relationships within the sample, relationship and correlational tests were done. Pearson correlation coefficients were used to specify the relationship between the variables of concern to this study. In terms of statistical significance, the alpha value was set at a 95% confidence interval level ($p \leq 0.05$), with a practical effect size of $r \geq 0.30$ (medium effect, Cohen 1988). Analysis of variance (ANOVA) compares the difference between means against the variability (spread of scores) within each sample. The within-sample variability provides an estimate of chance

variation. If the difference between sample means is significantly greater than the within-sample variability, we conclude that our samples differ on the outcome variable (Pagano, 2011).

The significant correlation coefficients between the sources of job stress, work engagement and psychological well-being are reported in Table 8. It shows that there were a number of significant relationships between the amount of stress, frequency of stress, the UWES factors and WEMWBS. The highlighted scores show the highest correlations between the factors.

Table 9: Significant Pearson-product moment correlations for NSI, WEMWBS and UWES

	UWES Factor: Vigor	UWES Factor: dedication	UWES Factor: Absorption	WEMWBS	Amount of Stress	Frequency of Stress
UWES Factor: Vigor	1					
UWES Factor: dedication	0.633416331	1				
UWES Factor: Absorption	0.694448649	0.616330199	1			
WEMWBS	0.030934211	0.20549494	0.0851577	1		
Amount of Stress	0.108424514	0.050947367	0.0609169	-0.098962874	1	
Frequency of Stress	0.001893834	-0.064800705	-0.05972	-0.011781934	0.488428804	1

The results in Table 9 (see fig 2) reveal the highest positive correlation between the UWES factors Absorption and Vigor, indicating that the more nurses are absorbed in their work, the more they experience Vigor. Similarly, significant correlation was found between UWES factors Dedication and Vigor, showing a positive correlation between these factors. It can therefore be inferred that the Vigor of the nurses increases when they are absorbed in and dedicated to their work. Furthermore, the results also show that as the frequency of stress increases, so does the amount of stress. In particular the statistics show a positive correlation between the UWES and WEMWBS, and a negative covariance between WEMWBS and the amount of stress.

5.2.6. Research Objective #5: Determine the Relationships between the Demographic Characteristics of the Nurses and their Stress, Work Engagement and Psychological Well-being

A number of the relationships between the demographic features and the stress, work engagement and psychological well-being of the nurses were revealed in section 5.2.1 of this chapter. However significant relationships not revealed between the demographic features and the constructs of stress, work engagement and psychological will be presented in this section. In general only 6.7% and 8.1% of the variation in the amount and frequency of stress respectively as measured by the NSI is explained by the captured demographic data. Fig 2 shows the significant relationships between the different variables in this study.

Table 10: Summary output of the NSI amount and demographic features of respondents

Regression Statistics	
Multiple R	0.416574099
R Square	0.17353398
Adjusted R Square	0.06782321
Standard Error	1.091021329
Observations	98

Table 11: Summary output of the NSI frequency and demographic features of the respondents

Regression Statistics	
Multiple R	0.43045034
R Square	0.185287495
Adjusted R Square	0.081080081
Standard Error	1.449922427
Observations	98

The regression analysis output presented in Tables 9 and 10 have the NSI as dependent variables and the demographic data as independent variables, with the hospital variable in particular indicating a significant relationship to the NSI, alluding to a statistically significant consistency in terms of the amount and frequency of stress within a specific hospital. Thus it can be surmised that the amount or intensity of stress, together with how often a nurse experiences stress is highly dependent on the hospital they work in.

Analysis of Variance (ANOVA) with alpha set at 0.05 was used to determine whether a relationship exists between the rank of a nurse (enrolled nurse, registered nurse, etc.) with the amount of stress and the frequency of stress they feel.

Table 12: ANOVA between rank of nurse and frequency and amount of stress

Source of Variation	***Sum of Squares***	***df***	***Mean Square***	***F***	***P-value***	***F crit***
Between Groups	15.83321396	1	15.83321396	18.17913615	0.005299638	5.987377607
Within Groups	5.225731464	6	0.870955244			
Total	21.05894543	7				

P-value<0.05, therefore we reject the null hypothesis (which is that there is no relationship between rank and amount of stress). When we calculate the effect size we end up with:

$$\eta^2 = \frac{15.8332}{21.0589}$$

$$\eta^2 = 0.7518$$

If we use Cohen's guidelines, η^2 would be considered a very large effect, meaning that 75% of the difference in amount of stress can be ascribed to the rank of a nurse. This supports the differences seen between the stress levels of enrolled and registered nurses.

Descriptive statistics of the UWES showed that nurses working in Katutura are a little more engaged in their work than their counterparts in the other hospitals under

study. Nurses aged between 26 to 30 years, experienced slightly more work engagement than the other age groups. Nurses working in the paediatric unit, medical ward, student nurses and those separated from their spouses showed more engagement in their work as well.

Analysis using ANOVA and cohen's *d* revealed that there were statistically significant differences between the marital status, ward, education, rank of the nurses and the UWES factors of Absorption, Dedication and Vigor. These results support the JD-R model discussed earlier in this paper which according to Bakker & Demerouti (2007), work engagement depends on two kinds of resources, namely, job resources and employees' own personal resources. Job resources include social support, feedback, and opportunities for autonomy, variety, and growth. When job resources are rich, work gets done more quickly and with better results. Working better is more rewarding for the worker, which in turn increases engagement and therefore, their effectiveness in the workplace. Employees' own personal resources such as self-esteem and optimism also contribute to work engagement.

Table 13: ANOVA between years of employment and WEMWBS

Source of Variation	***Sum of Squares***	***df***	***Mean Square***	***F***	***P-value***	***F crit***
Between Groups	1875384	1	1875384	22.31572768	0.000493625	4.747225347
Within Groups	1008464	12	84038.66667			
Total	2883848	13				

With P-value<0.05, we reject the null hypothesis which is that there is no relationship between the years of employment and psychological well-being. When we calculate the effect size we end up with:

$$\eta^2 = \frac{1875384}{2883848}$$

$\eta^2 = 0.6503061$

Using Cohen's guidelines, η^2 would be considered a large effect, meaning that 65% of the difference in years of employment can be ascribed to the psychological well-being of nurses. This result supports the notion that occupational characteristics explain a small but significant proportion of variance in measures of psychological well-being (Adelmann,1987).

	Gender	Age	Mar. St.	Lang.	City	Hosp.	Yrs Empl.	Unit	Ward	Ed.	Rank	A: Care	A:Job	A: Lack	A:Staff	A:Over	F:Care	F:Job	F:Lack	F:Staff	F:Over	Vigor	Ded.
Gender																							
Age																							
Marital St.																							
Language																							
City																							
Hospital																							
Yrs Empl.																							
Unit																							
Ward																							
Education																							
Rank																							
A-Patient Care																							
A-Job Demands																							
A-Lack of Support																							
A-Staff Issues																							
A-Overtime																							
F-Patient Care																							
F-Job Demands																							
F-Lack of Support																							
F-Staff Issues																							
F-Overtime																							
Vigor																							
Dedication																							
Absorption																							
WEMWBS																							

Figure 2: Relationships and Correlations between demographic features, stress factors, work engagement and psychological well-being

= Relationship: ANOVA

= Correlation

= ANOVA and Correlation

5.3 Summary of Results

In this chapter, the results of the data gathering instruments were presented. Ninety-eight (98) questionnaires were completed by the nurses in the sample. A broad variety of aspects relating to the stress, work engagement and the psychological well-being of nurses were included. The findings revealed that the nurses in the study found shortage of staff as their most severe stressor. In addition, several items such as the health risk posed by contact with patients, handling excessive paperwork and working irregular hours were some of the highest stressors for the nurses. The nurses showed high dedication to their work and their levels of psychological well-being were also relatively high. Analysis of data revealed several relationships and correlations between the different demographic indicators, and the factors of stress work engagement and psychological well-being.

From this information, conclusions and recommendations have been formulated as presented in Chapter six of this thesis. The summary of the findings, discussion and limitations of the study will also be included in the following chapter.

CHAPTER SIX

DISCUSSION

6.1 Introduction

Having presented the results of the study in the previous chapter, it is necessary to discuss and draw certain conclusions and recommendations based on these findings. This chapter provides a summary of the main findings as well as a discussion of the value and limitations of the study. Recommendations for future research and practice are also included in this chapter. As discussed in the previous chapters, the primary goals of this study were to a) determine the levels of stress, work engagement and psychological well-being of nurses in State hospitals in Windhoek, Rehoboth and Okahandja; b) determine the relationships between stress, work engagement and psychological well-being of nurses in Windhoek, Rehoboth and Okahandja and c) determine the relationships between the demographic variables, stress, work engagement and the psychological well-being of nurses in State hospitals in Windhoek, Rehoboth and Okahandja.

6.2 Summary of Findings

The objective of this study was to examine the levels as well as the relationships between nurses' sources of stress, their work engagement and psychological well-being and how they differ with regard to these variables in terms of the demographic contextual factors such as gender, marital status, age and nurse category. Overall, the findings suggest significant relationships between nurses' sources of stress, their

levels of work engagement and psychological well-being. Moreover, the findings also show a number of significant differences between these three variables and the nurses' demographic features. In interpreting the results, the following demographic characteristics of the sample were kept in mind. The participants were predominantly nurses working in State hospitals in Windhoek, Rehoboth and Okahandja and comprised predominantly of married, Afrikaans speaking females in the early phase of their careers (0-5 years). A little less than 50% were working in the nursing profession for ten years or less. The sample comprised mostly of registered nurses, which was followed closely by enrolled nurses, these were nurses with at least a certificate, diploma or degree in nursing. In the study, Nurses working in the psychiatric unit experienced the most stress, followed by oncology, with maternity experiencing the least amount of stress. Those working in the TB, surgical and medical wards experienced an average amount of stress.

With regard to the nurses' stress, the NSI's five factors presented Staff Issues as the most severe stressor, with nurses experiencing shortage of staff as their highest stress. For the Patient Care factor, the most severe stressor item for the nurses was getting personal insults from the family of their patients. Under the Job Demands factor, the health risk posed by contact with patients accounted for the most severe stress for the nurses. The nurses experienced the most severe stress caused by Lack of Support through dealing with excessive paperwork. Working irregular hours in the Overtime factor was the worst stressor for this factor. Overall, each stress factor elicited high levels of stress, indicating that the nurses in the study are severely

stressed. However, shortage of staff, being the most severe stressor is a major cause of concern.

Overall, the mean scores obtained for the work engagement variables were relatively high, ranging between 4.77 (highest mean score) and 4.16 (lowest mean score). The work engagement of nurses is high, with the highest score being Dedication, indicating that the nurses are highly dedicated to their work. They experience their work enthusiastically, find it significant, are proud and feel challenged by it. The nurses report in the study that they are absorbed in their work and may find it difficult to detach themselves from their work. Vigor, being the lowest score for the nurses, shows their energy levels, mental resilience and willingness to invest effort in their work.

The results of the WEMWBS, which determined the levels of psychological well-being of the nurses in this study, showed that the nurses had a relatively high level of psychological well-being. The statistics show a positive correlation between the UWES and WEMWBS, and a negative covariance between WEMWBS and the amount of stress.

6.3 Discussion

As revealed earlier, shortage of staff and irregular working hours were the most severe stressors for the nurses in the study. Shortage of staff leads to work overload for the working nurses. According to Mostert, Rothmann, Mostert and Nell (2008), work overload can be a major contributor to symptoms of psychological ill health, which may increase levels of stress and inadvertently reduce commitment to the organisation. This, in turn, may negatively influence overall job performance and turnover intention. Moreover, the presence of work overload may lead to exhaustion and cynicism, and symptoms of burnout (Chen et al., 2011; Rothmann, 2003). Landsbergis (2006) and Appleton et al. (1998) also reported similar results. In this study, working irregular hours was a significantly high stress item. According to Chen et al. (2011), nursing workload of 12-hour shifts has a negative physiological impact on hospital nurses. Health risk posed by contact with patients was another severe stressor for the nurses. This ties in strongly with Vecchio et al. (2011) who state that nurses are at high risk for work-related injury and that work-related injury is strongly influenced by psychosocial factors and physical job-related exposures.

Finally, personal insult from family and excessive paperwork also elicited a high level of stress for the nurses in this study. This shows similar results with Gholamzadeh et al. (2011) who identified the following stressors: problem related to physical environment, work load, dealing with patients or their relatives and handling their anger, being exposed to health and safety hazards, lack of support by nursing

administrators, a physician not being present in a medical emergency and lack of equipment as high stressors.

These results show that the levels of stress of nurses in this study are high. However, the levels of work engagement and psychological well-being of the nurses were equally high. This brings to the fore the question of whether the nurses in this study experience their stress as meaningful. As discussed in earlier chapters of this paper, stress may not always be experienced negatively. Nelson and Simmons (2003) found eustress and distress to be discernible by affective state, indicating that the Positive psychological constructs of hope, meaningfulness and positive affect were significant indicators of eustress. Meaningfulness is experienced when work appears to make sense emotionally and seems to be worth investing ones effort in. Hope is the belief that one has both the will and the way to succeed. Positive affect reflects a condition of pleasurable engagement, energy and enthusiasm. Hence, these findings provide points of comparison and contrast with the results of this study.

Despite Wah, (1999, as cited in Attridge, 2009) assertion that a low rate of engagement has been found on numerous surveys conducted in the past 10 years, thus representing a global crisis in productivity and worker well-being. One could infer that the nurses in this study are highly energetic and self-efficacious individuals who have a heightened ability to influence events that affect their lives. Due to their positive attitude and elevated activity level, these engaged nurses may create their own positive feedback, in terms of recognition, appreciation, and success. Irrespective of the fact that these engaged nurses may feel tired after a long day of

hard work, they may rather perceive tiredness as a pleasant state as they would associate it with positive accomplishments in their work (Bakker and Leiter, 2010; Gorgievski et al., 2010).

Although the male nurses displayed a slightly higher level of psychological well-being than their female counterparts, the fact that the female nurses in the study were more than the male ones, brings to the fore the question of the possible reasons for the female nurses' high level of psychological well-being. Baruch and Barnett (1986), using hierarchical regression analyses reveled that occupying the role of paid worker significantly predicted self-esteem for the females. The construct of well-being was measured by indices of self-esteem, depression, and pleasure; pleasure was assessed by a scale consisting of single-item measures of happiness, satisfaction, and optimism.

6.4 Limitations of the Study

It is essential to identify the associated limitations of a particular research protocol when interpreting the study findings. This study had several limitations. The sample size was relatively small (n = 150). The number was limited due to the fact that the matrons elucidated the fact that they were highly overworked and they may not have the time to fill in the questionnaire. Most of the nurses agreed to take less than the desired amount, due to this limitation. Another limitation of this study was the relatively average response rate of 65%, effectively, ninety-eighty (98) respondents. The absence of information pertaining to the participants who did not return the

questionnaires means that the generalization of findings from this study to the wider population cannot be accurately determined. A number of possible explanations exist pertaining to the low response rate. First, the length of the four questionnaires may have been one reason for the low response rate, especially because the research required each respondent to complete all four questionnaires with a total of 147 questions. Another possible reason for a low response rate is fatigue resulting from work. Specifically, the most stressed-out staff may have felt too exhausted or overworked to take additional time to participate in the study. If this were the case, then these results could be misleading.

Moreover, the use of self-report questionnaires incurs a risk of measurement error in relation to defensive responses or bias. The generally accepted practice of measuring stress by simply asking subjects to comment on the degree and the frequency to which certain situations are perceived as being present in their work results in a process of simplification that may give limited attention to the, intensity, and meaning of the various stressors.

Another limitation was the sampling. The sample was taken from nurses who were available at the time the study was carried out. The risk was that some participants declined to take part and therefore the participants chosen may have been a biased sample as those participants responding may be a particular type of person.

Furthermore, the sample was inclusive of only nurses in State hospitals in Windhoek, Rehoboth and Okahandja. As a result, the findings cannot be generalised to nurses

working in private hospitals in the aforementioned areas or to any other towns in Namibia.

6.5 Recommendations

As discussed in chapter one of this study, there is a paucity of empirical work on the levels and relationship between the stress, work engagement and psychological well-being of nurses in Namibia. Therefore, it would be prudent not to over-interpret the present findings with reference to practical implications without further corroborative research. However, some recommendations can be made in relation to the findings in this study.

As healthcare institutions face a nursing shortage and as a new generation of nurses enters the workforce, factors that influence turnover should be considered so as to create a working environment that retains the nurse. Research in nursing provides a scientific basis to plan, predict, and control the outcomes of nursing practice. As an evidence-based area of practice, nursing has been developing for a number of years. In order to further the development of scientific knowledge, the findings of this research should be communicated to nurses and nurse administrators in the country.

According to literature and corroborative findings in this study, people's dominant levels of work engagement appear to be significantly related to their sources of job stress. This suggests that the Ministry of Health and Social Services (MOHSS) should look into favourable organisational conditions that address the psychological needs underlying individuals' motives and values and, that address reducing

employees' sources of stress by ensuring that the required job resources are available as this may invoke higher levels of work engagement. Furthermore, nurse managers, industrial psychologists and human resources practitioners should pay particular attention to the psycho-social work environment of the nurses. Begat and Severinsson (2006) demonstrated that nurses' psychosocial work environment is improved as a result of clinical nursing supervision which in turn, enhances nurses' experiences of well-being.

As discussed in chapter three of this paper, Orly et al., (2012) conducted a study with the aim of using a cognitive-behavioral intervention to reduce occupational stress. They found a significant decrease in stress and fatigue among participants in the course. Hence, it is recommended that a cognitive-behavioral course be developed as part of a wellness program in the hospitals to increase nurses' well-being as well as to reduce their levels of stress.

6.6 Conclusions

In this chapter the results of the measures (i.e., demographic questionnaire, NSI, UWES and WEMWBS) have been presented and discussed. The findings have been linked to theory and previous studies which have been reviewed in the preceding chapters. Some of the findings in this study confirm theoretical and earlier research findings, while others appear to be unique to this particular sample. Implications and recommendations for further research and practice have also been presented. The results obtained in this study provide guidance regarding research into stress, work engagement and psychological well-being. This study provides guidelines regarding

the possible measures and methodology that can be used in future research studies in the area of stress, work engagement and the psychological well-being of nurses, focusing on the positive constructs as propagated by the Positive Psychology school of thought.

This study aimed to determine the levels and relationships between stress, work engagement and psychological well-being of nurses working in State hospitals in Windhoek, Rehoboth and Okahandja. From the findings of this study, several conclusions can be made. Overall, the results show similar results to what can be found in literature pertaining to the stress, work engagement and psychological well-being of nurses. The findings of this study add to the wellness literature by showing that nurses' perceived sources of stress relate significantly to their levels of work engagement and psychological well-being. Furthermore, the findings indicate that demographic characteristics such as marital status, gender, rank and age play an important role in understanding the relationship between nurses' sources of stress, work engagement and psychological well-being. Finally, this study revealed that nurses remained actively engaged in their work, and their positive responses to the demands they faced showed a significant relationship to their own well-being, which promotes the basic premise of the Positive Psychology paradigm of generating one's strength as opposed to concentrating on one's weakness.

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APPENDIX A

DEMOGRAPHIC QUESTIONAIRE

Please cross (X) the relevant box

1. GENDER/SEX: **Male** ☐ **Female** ☐

2. AGE: __________ (**in years**)

3. MARITAL STATUS: **Single** ☐ **Married** ☐ **Divorced** ☐ **Separated** ☐

4. HOME LANGUAGE:_________________________________

5. CURRENT CITY: **Windhoek** ☐ **Rehoboth** ☐ **Okahandja** ☐

6. NAME OF HOSPITAL:_________________________________

7. YEARS EMPLOYED IN NURSING PROFESSION: **0 -5yrs** ☐ **6-10yrs** ☐ **11-15yrs** ☐ **16-20yrs** ☐ **21–25yrs** ☐ **26–30yrs** ☐ **31yrs and longer** ☐

8. SPECIALISED UNIT:______________________ NAME/TYPE OF WARD WORKED IN:_____________________

9. HIGHEST EDUCATIONAL QUALIFICATION: ___________________________ (e.g. Diploma, Bachelors etc)

10. RANK: **Enrolled Nurse** ☐ **Registered Nurse** ☐ **Other** ☐ **Specify**___________

Please proceed to the next page >>>>>

APPENDIX B

NURSING STRESS INDICATOR

Job stress can have serious effects on the lives of employees and their families. The impact of stressful job events is influenced by both the **amount** of stress associated with a particular event and the **frequency** of its occurrence. This survey will determine your perception of important sources of stress in your work. The survey lists 53 job-related items that many employees find stressful. First, you will be asked to rate the amount of stress associated with each event. Then, indicate the **number of times within the last 6 months** that you have experienced each event.

In making your ratings of the amount of stress for each stressor event, use all your knowledge and experience. Consider the amount of time and energy that you would need to cope with or adjust to the event. Base your ratings on your personal experience as well as what you have seen to be the case for others. Rate the **average amount of stress** that you feel is associated with each event, rather than the extreme.

The first event, **ASSIGNMENT OF DISAGREEABLE DUTIES *e.g. tasks assigned to you that you don't want to do***, was rated by persons in a variety of occupations as producing an average amount of stress. This event has been given a rating of "5" and will be used as the **standard** for evaluating the other events. Compare each event with this standard. Then assign a number from "1" to "9" to indicate whether you judge the event **to be less or more stressful than being assigned disagreeable duties.**

PART A – Amount of stress

*For this questionnaire, assume that the **Assignment of Disagreeable Duties e.g. tasks assigned to you that you don't want to do,** will cause an amount of stress that equals a **5** on the scale for any person including you. So think about all the statements in terms of how you would experience stress if the **Assignment of Disagreeable Duties** will be a **5** on the scale. Thus, the **Assignment of Disagreeable Duties (5)** is the standard in terms of your evaluation of the amount of stress you experience on the other statements.*

If the event listed is more stressful to you than the **ASSIGNMENT OF DISAGREEABLE DUTIES**, cross out **(X)** the appropriate number that is larger than "5". For example:

1A Assignment of disagreeable duties	1	2	3	4	5	6	7	8	9

If the event listed is less stressful to you than the **ASSIGNMENT OF DISAGREEABLE DUTIES**, cross out **(X)** the appropriate number that is smaller than "5". For example:

1A Assignment of disagreeable duties	1	2	3	4	5	6	7	8	9

PART B – Frequency of event

Indicate the approximate number of days during the past 6 months on which you have personally experienced the event. For example, if you have experienced the event listed on 4 days during the past six months, cross out the “4”. If you have not experienced the event on any days during the past six months, cross out the “0”. If you have experienced the event listed on 9 or more days during the past six months, cross out the “9+”.

If you ***make a mistake or change*** your mind on any item, **cross out and circle the correct response.** For example:

1A Assignment of disagreeable duties	1	2	3	4	5	6	7	8	9

PART A – AMOUNT OF STRESS

Instructions: For job-related events judged to produce approximately the same amount of stress as the **ASSIGNMENT OF DISAGREEABLE DUTIES**, cross out the number “5”. For those events that you feel are **more** stressful than the standard, cross out a number proportionately HIGHER than “5”. If you feel an event is **less** stressful than the standard, cross out a number appropriately smaller than “5”. If the event is not applicable to your situation mark **NA (Not Applicable).**

Stressful Job-Related Events	**Amount of Stress**									
	Low				**Moderate**				**High**	
1. Assignment of disagreeable duties	1	2	3	4	5	6	7	8	9+	NA
2. Working overtime and emergency hours	1	2	3	4	5	6	7	8	9+	NA
3. Lack of opportunity for advancement	1	2	3	4	5	6	7	8	9+	NA
4. Assignment of new or unfamiliar duties	1	2	3	4	5	6	7	8	9+	NA
5. Fellow workers not doing their job	1	2	3	4	5	6	7	8	9+	NA
6. Inadequate support by supervisor/manager	1	2	3	4	5	6	7	8	9+	NA
7. Dealing with crisis situations	1	2	3	4	5	6	7	8	9+	NA
8. Lack of recognition for good work	1	2	3	4	5	6	7	8	9+	NA
9. Performing tasks not in job description	1	2	3	4	5	6	7	8	9+	NA
10. Inadequate or poor quality equipment	1	2	3	4	5	6	7	8	9+	NA
11. Assignment of increased responsibility	1	2	3	4	5	6	7	8	9+	NA
12. Periods of inactivity	1	2	3	4	5	6	7	8	9+	NA
13. Difficulty getting along with supervisor/manager	1	2	3	4	5	6	7	8	9+	NA
14. Experiencing negative attitudes toward the organisation	1	2	3	4	5	6	7	8	9+	NA
15. Insufficient personnel to handle workload	1	2	3	4	5	6	7	8	9+	NA
16. Making critical on-the-spot decisions	1	2	3	4	5	6	7	8	9+	NA
17. Personal insult from patients or their families	1	2	3	4	5	6	7	8	9+	NA
18. Lack of participation in policy-making decisions	1	2	3	4	5	6	7	8	9+	NA

19. Inadequate salary	1	2	3	4	5	6	7	8	9+	NA
20. Competition for advancement	1	2	3	4	5	6	7	8	9+	NA
21. Poor or inadequate supervision/management	1	2	3	4	5	6	7	8	9+	NA
22. Frequent interruptions	1	2	3	4	5	6	7	8	9+	NA
23. Frequent changes from boring to demanding activities	1	2	3	4	5	6	7	8	9+	NA
24. Excessive paperwork e.g. administrative duties	1	2	3	4	5	6	7	8	9+	NA
25. Meeting deadlines	1	2	3	4	5	6	7	8	9+	NA
26. Insufficient personal time (e.g., coffee breaks, lunch)	1	2	3	4	5	6	7	8	9+	NA
27. Covering work for another employee	1	2	3	4	5	6	7	8	9+	NA
28. Poorly motivated co-workers	1	2	3	4	5	6	7	8	9+	NA
29. Conflicts with other departments/divisions	1	2	3	4	5	6	7	8	9+	NA
30. Dealing with difficult clients/patients	1	2	3	4	5	6	7	8	9+	NA
31. Dealing with other health care professionals (e.g. medical practitioners, dieticians, social workers, pharmacists)	1	2	3	4	5	6	7	8	9+	NA
Stressful Job-Related Events	**Amount of Stress**									
	Low				**Moderate**				**High**	
32. Adhering to the budget of the hospital/institution	1	2	3	4	5	6	7	8	9+	NA
33. Stock control in the ward/unit/ /institution	1	2	3	4	5	6	7	8	9+	NA
34. The management of staff	1	2	3	4	5	6	7	8	9+	NA
35. Demands of clients/patients	1	2	3	4	5	6	7	8	9+	NA
36. Language and communication barriers with clients/patients	1	2	3	4	5	6	7	8	9+	NA
37. Excessive involvement in committee meetings (e.g. Infection control)	1	2	3	4	5	6	7	8	9+	NA
38. Security risk posed in area where your job is located	1	2	3	4	5	6	7	8	9+	NA
39. Health risk posed by contact with patients (e.g. HIV/AIDS, Tuberculosis)	1	2	3	4	5	6	7	8	9+	NA
40. Performing procedures that patients experience as painful	1	2	3	4	5	6	7	8	9+	NA
41. Patients who fail to improve	1	2	3	4	5	6	7	8	9+	NA
42. Conflict with a supervisor / manager	1	2	3	4	5	6	7	8	9+	NA
43. Communicating with a patient about death	1	2	3	4	5	6	7	8	9+	NA
44. Lack of a opportunity to talk openly with other staff members	1	2	3	4	5	6	7	8	9+	NA
45. Death of a patient	1	2	3	4	5	6	7	8	9+	NA
46. Making a mistake when treating a patient	1	2	3	4	5	6	7	8	9+	NA
47. Lack of support from colleagues	1	2	3	4	5	6	7	8	9+	NA
48. Death of a patient with whom you developed a close relationship	1	2	3	4	5	6	7	8	9+	NA
49. Disagreement with medical practitioner or colleague(s) concerning the treatment of a patient	1	2	3	4	5	6	7	8	9+	NA
50. Caring for the emotional and spiritual needs of a patient or his/her family	1	2	3	4	5	6	7	8	9+	NA

51. Inadequate information from a medical practitioner regarding the medical condition of a patient	1	2	3	4	5	6	7	8	9+	NA
52. Floating to other units that are short of staff	1	2	3	4	5	6	7	8	9+	NA
53. Watching a patient suffer	1	2	3	4	5	6	7	8	9+	NA
54. Criticism by a supervisor/manager	1	2	3	4	5	6	7	8	9+	NA
55. Insufficient time to perform tasks	1	2	3	4	5	6	7	8	9+	NA
56. Operating specialised equipment	1	2	3	4	5	6	7	8	9+	NA
57. Shortage of staff	1	2	3	4	5	6	7	8	9+	NA
58. Irregular working hours	1	2	3	4	5	6	7	8	9+	NA

PART B – Frequency of event

For each of the job-related events listed, please indicate the approximate number of days during the past 6 months on which you have **personally** experienced this event. Cross out "0" if the event did not occur, cross out the number "9+" for each event you experienced personally on 9 or more days during the past 6 months.

Stressful Job-Related Events	**Number of Days on Which the Event Occurred During the Past 6 Months**										
59. Assignment of disagreeable duties	0	1	2	3	4	5	6	7	8	9+	NA
60. Working overtime and emergency hours	0	1	2	3	4	5	6	7	8	9+	NA
61. Lack of opportunity for advancement	0	1	2	3	4	5	6	7	8	9+	NA
62. Assignment of new or unfamiliar duties	0	1	2	3	4	5	6	7	8	9+	NA
63. Fellow workers not doing their job	0	1	2	3	4	5	6	7	8	9+	NA
64. Inadequate support by supervisor/manager	0	1	2	3	4	5	6	7	8	9+	NA
65. Dealing with crisis situations	0	1	2	3	4	5	6	7	8	9+	NA
66. Lack of recognition for good work	0	1	2	3	4	5	6	7	8	9+	NA
67. Performing tasks not in job description	0	1	2	3	4	5	6	7	8	9+	NA
68. Inadequate or poor quality equipment	0	1	2	3	4	5	6	7	8	9+	NA
69. Assignment of increased responsibility	0	1	2	3	4	5	6	7	8	9+	NA
70. Periods of inactivity	0	1	2	3	4	5	6	7	8	9+	NA
71. Difficulty getting along with supervisor/manager	0	1	2	3	4	5	6	7	8	9+	NA
72. Experiencing negative attitudes toward the organisation	0	1	2	3	4	5	6	7	8	9+	NA
73. Insufficient personnel to handle workload	0	1	2	3	4	5	6	7	8	9+	NA
74. Making critical on-the-spot decisions	0	1	2	3	4	5	6	7	8	9+	NA
75. Personal insult from patients or their families	0	1	2	3	4	5	6	7	8	9+	NA
76. Lack of participation in policy-making decisions	0	1	2	3	4	5	6	7	8	9+	NA

77. Inadequate salary	0	1	2	3	4	5	6	7	8	9+	NA
78. Competition for advancement	0	1	2	3	4	5	6	7	8	9+	NA
79. Poor or inadequate supervision/management	0	1	2	3	4	5	6	7	8	9+	NA
80. Frequent interruptions	0	1	2	3	4	5	6	7	8	9+	NA
81. Frequent changes from boring to demanding activities	0	1	2	3	4	5	6	7	8	9+	NA
82. Excessive paperwork e.g. administrative duties	0	1	2	3	4	5	6	7	8	9+	NA
83. Meeting deadlines	0	1	2	3	4	5	6	7	8	9+	NA
84. Insufficient personal time (e.g., coffee breaks, lunch)	0	1	2	3	4	5	6	7	8	9+	NA
85. Covering work for another employee	0	1	2	3	4	5	6	7	8	9+	NA
86. Poorly motivated co-workers	0	1	2	3	4	5	6	7	8	9+	NA
87. Conflicts with other departments/divisions	0	1	2	3	4	5	6	7	8	9+	NA
88. Dealing with difficult clients/patients	0	1	2	3	4	5	6	7	8	9+	NA
89. Dealing with other health care professionals (e.g. medical practitioners, dieticians, social workers, pharmacists)	0	1	2	3	4	5	6	7	8	9+	NA
90. Adhering to the budget of the hospital/institution	0	1	2	3	4	5	6	7	8	9+	NA
91. Stock control in the ward/unit/ /institution	0	1	2	3	4	5	6	7	8	9+	NA
92. The management of staff	0	1	2	3	4	5	6	7	8	9+	NA
93. Demands of clients/patients	0	1	2	3	4	5	6	7	8	9+	NA
94. Language and communication barriers with clients/patients	0	1	2	3	4	5	6	7	8	9+	NA
95. Excessive involvement in committee meetings (e.g. Infection control)	0	1	2	3	4	5	6	7	8	9+	NA
96. Security risk posed in area where your job is located	0	1	2	3	4	5	6	7	8	9+	NA
97. Health risk posed by contact with patients (e.g. HIV/AIDS, Tuberculosis)	0	1	2	3	4	5	6	7	8	9+	NA
98. Performing procedures that patients experience as painful	0	1	2	3	4	5	6	7	8	9+	NA
99. Patients who fail to improve	0	1	2	3	4	5	6	7	8	9+	NA
100. Conflict with a supervisor / manager	0	1	2	3	4	5	6	7	8	9+	NA
101. Communicating with a patient about death	0	1	2	3	4	5	6	7	8	9+	NA
102. Lack of a opportunity to talk openly with other staff members	0	1	2	3	4	5	6	7	8	9+	NA
103. Death of a patient	0	1	2	3	4	5	6	7	8	9+	NA
104. Making a mistake when treating a patient	0	1	2	3	4	5	6	7	8	9+	NA
105. Lack of support from colleagues	0	1	2	3	4	5	6	7	8	9+	NA
106. Death of a patient with whom you developed a close relationship	0	1	2	3	4	5	6	7	8	9+	NA

107. Disagreement with medical practitioner or colleague(s) concerning the treatment of a patient	0	1	2	3	4	5	6	7	8	9+	NA
108. Caring for the emotional and spiritual needs of a patient or his/her family	0	1	2	3	4	5	6	7	8	9+	NA
109. Inadequate information from a medical practitioner regarding the medical condition of a patient	0	1	2	3	4	5	6	7	8	9+	NA
110. Floating to other units that are short of staff	0	1	2	3	4	5	6	7	8	9+	NA
111. Watching a patient suffer	0	1	2	3	4	5	6	7	8	9+	NA
112. Criticism by a supervisor/manager	0	1	2	3	4	5	6	7	8	9+	NA
113. Insufficient time to perform tasks	0	1	2	3	4	5	6	7	8	9+	NA
114. Operating specialised equipment	0	1	2	3	4	5	6	7	8	9+	NA
115. Shortage of staff	0	1	2	3	4	5	6	7	8	9+	NA
116. Irregular working hours	0	1	2	3	4	5	6	7	8	9+	NA

APPENDIX C

Work & Well-being Survey (UWES) ©

The following 17 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the '0' (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

	Almost never	Rarely	Sometimes	Often	Very Often	Always
0	1	2	3	4	5	6
Never	A few times a year or less	Once a month	A few times a month	Once a week	A few times a week	Everyday

1. ________ At my work, I feel bursting with energy* (*VI1)*
2. ________ I find the work that I do full of meaning and purpose *(DE1)*
3. ________ Time flies when I'm working *(AB1)*
4. ________ At my job, I feel strong and vigorous *(VI2)**
5. ________ I am enthusiastic about my job (*DE2)**
6. ________ When I am working, I forget everything else around me *(AB2)*
7. ________ My job inspires me *(DE3)**
8. ________ When I get up in the morning, I feel like going to work *(VI3)**
9. ________ I feel happy when I am working intensely *(AB3*)*
10. ________ I am proud on the work that I do *(DE4)**
11. ________ I am immersed in my work *(AB4)**
12. ________ I can continue working for very long periods at a time *(VI4)*
13. ________ To me, my job is challenging *(DE5)*
14. ________ I get carried away when I'm working *(AB5)**
15. ________ At my job, I am very resilient, mentally *(VI5)*
16. ________ It is difficult to detach myself from my job *(AB6)*
17. ________ At my work I always persevere, even when things do not go well *(VI6)*

---

* Shortened version (UWES-9); VI= vigor; DE = dedication; AB = absorption

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APPENDIX D

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS)

Below are some statements about feelings and thoughts.

Please tick the box that best describes your experience of each over the last 2 weeks

STATEMENTS	None of the time	Rarely	Some of the time	Often	All of the time
I've been feeling optimistic about the future	1	2	3	4	5
I've been feeling useful	1	2	3	4	5
I've been feeling relaxed	1	2	3	4	5
I've been feeling interested in other people	1	2	3	4	5
I've had energy to spare	1	2	3	4	5
I've been dealing with problems well	1	2	3	4	5
I've been thinking clearly	1	2	3	4	5
I've been feeling good about myself	1	2	3	4	5
I've been feeling close to other people	1	2	3	4	5
I've been feeling confident	1	2	3	4	5
I've been able to make up my own mind about things	1	2	3	4	5
I've been feeling loved	1	2	3	4	5
I've been interested in new things	1	2	3	4	5
I've been feeling cheerful	1	2	3	4	5

"Warwick Edinburgh Mental Well-Being Scale (WEMWBS)
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Appendix E

9 - 0/0001

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13198	**Ministerial Building**	**Tel: (061) 2032510**
Windhoek	**Harvey Street**	**Fax: (061) 227786**
Namibia	**Windhoek**	**E-mail: eshaama@mhss.gov.na**
Enquiries: Ms. E.N. Shaama	**Ref.:** 17/3/3	**Date:** 11 August 2011

OFFICE OF THE PERMANENT SECRETARY

Ms. Ester N. Awuku
Private Bag 13301
Windhoek

Dear Ms. Awuku

Re: Stress, Work engagement and the Psychological well-being of Nurses at State Hospitals in Windhoek, Rehoboth and Okahandja

1. Reference is made to your application to conduct the above-mentioned study.

2. The proposal has been evaluated and found to have merit.

3. **Kindly be informed that permission to conduct the study has been granted under the following conditions:**

3.1 The data to be collected must only be used for completion of your MA Clinical Psychology;
3.2 No other data should be collected other than the data stated in the proposal;
3.3 A quarterly report to be submitted to the Ministry's Research Unit;
3.4 Preliminary findings to be submitted upon completion of study;
3.5 Final report to be submitted upon completion of the study;
3.6 Separate permission should be sought from the Ministry for the publication of the findings.

Yours sincerely

MR. K. KAHUURE
PERMANENT SECRETARY

"Health for All"

APPENDIX F

Esther N. Awuku
MA Clinical Psychology Student
P.O. Box 99091
Windhoek
Email: esther.awuku@yahoo.com
Cell: 081 260 2845
Tel: 061-301413 (h)

Dear Participant,

I am a student currently studying at the University of Namibia for a Master of Arts degree in Clinical Psychology. I am currently undertaking a survey among nurses in Windhoek, Rehoboth and Okahandja.

By taking part in this research, you can provide valuable insight into factors that enable nurses in state hospitals to stay in their jobs despite the various challenges and concerns. Moreover, interventions may be formulated to enhance work engagement and the psychological well-being that nurses derive from their work and possibly reduce the levels of stress experienced by the nurses.

Accompanying this information letter, you will find questionnaires. The questionnaires will take you approximately 45 minutes to complete. It is important to **answer all the questions honestly** otherwise, we may not be able to gain insight from this work. Please kindly take note that all information will be treated with the outmost **confidentiality** and **anonymity**. Please **do not write your name** on your answer sheet. Remember, there are **no *'right' or 'wrong' answers, just select the answers that are most appropriate to you***. To agree to take part in this study, please sign the consent at the bottom of this cover letter.

After the questionnaires have been ***fully completed***, please replace them in the envelope in which you received them, ***seal the envelope*** and ***return* it to the *marked boxes at your duty station in your hospital*** for collection.

Should you require any further information, you are welcome to contact me using the contact details above or my thesis supervisor, **Dr. Elizabeth N. Shino** at the Psychology Section, Department of Human Sciences, at University of Namibia, tel: (061) 206 3807 or email: eshino@unam.na. Please also note that the study has been approved by the Ministry of Health and Social Services.

I thank you for making a personal contribution to academic research.

Yours sincerely,

____

Esther. N. Awuku

MA Clinical Psychology Student

~~~~~~

I hereby give consent for the information that I have provided in the attached questionnaires to be used in this research project by Ms. Esther N. Awuku.

__________________ __________________

Nurse's Signature *Date*
~~~~~~

Appendix G

9 - 0/0001

REPUBLIC OF NAMIBIA

Ministry of Health and Social Services

Private Bag 13215 Windhoek Namibia	Harvey Street Windhoek Central Hospital	Tel. No: (061) 203 3024 Fax No: (061) 222886
Enquiries: Ms E.V. Kauuova		Date : 19 September 2011

OFFICE OF THE SENIOR MEDICAL SUPERINTENDENT
WINDHOEK CENTRAL HOSPITAL

To : All Head of Departments
Windhoek Central hospital

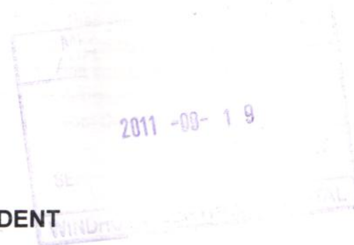
RE : PERMISSION TO COLLECT DATA ON A STUDY REGARDING STRESS, WORK ENGAGEMENT AND THE PSYCHOLOGICAL WELL-BEING OF NURSES .

This is to inform you that Ms. Ester N. Awuku has been granted permission to collect data at the Windhoek Central Hospital for her study as indicated above.

Kindly render her the assistance she may require.

Thank you

Yours sincerely



DR. S. SHALONGO
SENIOR MEDICAL SUPERINTENDENT

"Health for All"

Appendix H

Table 2: Descriptive statistics of stressor intensity and frequency items for enrolled and registered nurses

Item	Enrolled Nurses					Registered Nurses				
	Intensity		Frequency		Severity	Intensity		Frequency		Severity
	Mean	***SD***	***Mean***	***SD***		***Mean***	***SD***	***Mean***	***SD***	
FACTOR 1: PATIENT CARE										
Death of a patient with whom you have developed a close relationship	5.06	2.67	4.35	3.28	22.01	5.15	3.15	4.11	2.94	21.17
Watching a patient suffer	5.68	2.76	4.90	2.83	27.83	5.82	2.73	4.57	3.09	17.98
Death of a patient	5.68	2.44	4.55	3.10	25.84	5.42	2.92	4.35	3.12	23.58
Making a mistake when treating a patient	4.84	2.84	4.13	2.66	19.99	5.25	3.04	3.86	3.06	20.27
Communicating with a patient about death	5.06	2.59	5.03	3.30	25.45	5.05	2.58	4.68	3.18	23.63
Disagreement with medical practitioner or colleague concerning the treatment of a patient	5.00	2.78	4.52	3.02	22.60	4.71	2.80	4.40	3.08	20.72
Patients who fail to improve	5.90	2.34	5.42	2.99	31.98	5.06	2.57	4.72	3.04	23.88
Inadequate information from a medical practitioner regarding the medical condition of the patient	4.48	2.73	5.00	2.94	22.40	4.91	2.63	4.32	3.07	21.21
Personal insult from family	6.03	2.67	4.65	2.78	28.04	6.11	2.81	6.06	2.92	37.03
Caring for emotional and spiritual needs of patients/family	4.68	2.73	5.29	2.90	24.76	4.71	2.79	4.57	2.99	21.52
FACTOR 2: JOB DEMANDS										
Demands of clients/patients	5.52	2.32	5.03	2.85	27.77	5.43	2.63	5.48	3.10	29.76
Stock control in the ward/unit/institution	4.42	2.65	4.16	3.23	18.39	5.38	2.68	4.92	2.87	26.47
Language and communication barriers with clients/patients	5.74	2.03	4.84	2.97	27.78	5.43	2.69	4.85	2.98	26.34
Adhering to the budget of the hospital/institution	4.71	2.58	4.48	3.33	21.10	5.09	3.01	4.02	2.93	20.46
Dealing with other health care professionals (e.g. dieticians, social workers, pharmacists)	5.03	2.18	4.94	3.37	24.85	5.46	2.76	4.65	3.04	25.39
Management of staff	4.35	2.76	4.45	3.39	19.36	5.20	2.66	5.38	2.94	27.98
Dealing with difficult patients	5.68	2.52	5.52	2.74	31.35	5.94	2.68	4.94	3.08	29.34

Excessive involvement in committee meetings	3.58	2.32	4.48	2.83	16.04	4.31	2.94	4.54	3.22	19.57
Meeting deadlines	4.10	2.59	4.06	3.38	16.64	5.45	2.85	4.48	3.22	24.42
Frequent changes from boring to demanding activities	5.23	2.60	5.23	3.34	27.35	5.23	2.77	4.86	3.08	25.42
Security risk posed in area where your job is located	4.97	2.83	5.94	2.94	29.52	5.49	2.89	4.48	3.19	24.60
Health risk posed by contact with patients	6.87	2.29	6.06	2.90	41.63	5.92	2.70	5.62	3.23	33.27
Assignment of disagreeable duties	4.32	1.13	4.00	2.91	17.28	4.58	1.89	4.28	3.18	19.60
Assignment of new/unfamiliar duties	4.06	2.45	3.03	2.67	12.32	4.57	2.55	3.92	2.86	17.91
Dealing with crisis situation	4.68	2.18	4.26	3.04	19.94	5.63	2.09	4.80	2.99	27.02
Performing painful procedures	6.00	2.13	6.29	2.56	37.74	5.09	2.81	5.57	3.13	28.35
Operating specialised equipment	4.77	2.90	3.97	2.93	18.94	6.11	2.72	4.35	2.74	26.58
FACTOR 3: STRESS, LACK OF SUPPORT										
Difficulty getting along with supervisor/manager	4.77	2.83	4.03	2.98	19.22	4.88	2.75	3.98	2.83	19.42
Poor or inadequate supervision/management	5.26	2.76	5.13	3.21	26.98	5.28	2.74	4.95	3.02	26.14
Inadequate support by supervisor/manager	4.42	2.39	4.13	2.65	18.25	5.55	2.47	4.80	3.02	26.64
Conflict with a supervisor/manager	4.87	2.96	4.87	2.96	23.72	4.51	2.66	3.78	3.06	17.05
Experiencing negative attitudes towards the organisation	5.58	2.56	4.45	2.90	24.83	4.91	2.79	4.32	2.75	21.21
Lack of support from colleagues	4.39	2.65	4.06	2.97	17.82	5.00	2.68	4.15	3.02	20.75
Inadequate or poor quality equipment	5.84	2.68	4.97	3.09	29.02	6.11	2.72	5.46	2.96	33.36
Lack of recognition for good work	6.00	2.54	6.65	2.91	39.90	6.08	2.49	5.34	3.14	32.47
Lack of participation in policy-making decisions	5.84	2.91	4.58	2.76	26.75	5.38	2.73	5.48	3.39	29.48
Lack of opportunity to talk openly with other staff members	4.87	2.71	4.80	2.84	23.38	5.38	2.73	4.52	3.06	24.32
Lack of opportunity for advancement	4.87	2.55	4.71	3.30	22.94	5.11	2.56	4.94	3.19	25.24
Assignment of increased responsibility	4.97	2.82	4.58	3.19	22.76	6.11	2.61	5.20	2.99	31.77
Periods of inactivity	4.19	2.73	3.90	3.14	16.34	4.38	2.95	3.89	2.93	17.04
Excessive paperwork	6.23	2.59	5.58	3.16	34.76	6.61	2.35	5.25	3.38	34.70
Insufficient personal time	5.52	2.44	4.65	3.33	25.67	5.78	2.69	5.31	2.91	30.69
Conflicts with other departments/divisions	4.29	2.62	5.32	3.04	22.82	5.65	2.78	4.91	3.15	27.74
Criticism by supervisor	5.68	2.77	3.61	2.68	20.50	5.94	2.62	4.35	2.96	25.84
FACTOR 4: STAFF ISSUES										
Insufficient personnel to handle workload	6.52	2.23	5.10	2.83	33.25	6.43	2.68	5.77	3.03	37.10
Shortage of staff	7.16	2.49	5.71	2.81	40.88	6.98	2.52	6.49	2.86	45.30

Poorly motivated co-workers	5.94	2.20	4.90	2.87	29.11	6.46	2.26	5.00	3.16	32.30
Insufficient time to perform tasks	5.71	2.25	3.81	2.97	21.76	5.89	2.74	4.88	2.79	28.74
Fellow workers not doing their job	5.06	2.35	4.90	2.96	24.79	5.62	2.10	5.02	3.01	28.21
Covering work for another employee	5.00	2.45	4.81	3.07	24.05	5.91	2.61	5.02	3.28	29.67
Inadequate salary	6.35	3.26	6.13	2.86	38.93	6.25	2.61	6.00	3.26	37.50
Competition for advancement	4.65	2.98	5.06	3.22	23.53	4.82	2.97	4.65	3.23	22.41
Frequent interruptions	4.90	2.89	4.48	3.37	21.95	5.63	2.63	4.91	3.20	27.64
FACTOR 5: OVERTIME										
Working overtime	4.45	1.96	4.84	3.17	21.54	4.72	2.50	5.72	3.00	27.00
Irregular working hours	6.03	2.92	5.16	2.81	31.11	6.29	2.73	5.42	3.08	34.09
Floating to other units that are short of staff	5.84	2.50	5.10	2.73	29.78	5.35	2.68	4.09	3.07	21.77