

# **Positive practice environments in critical care units: A grounded theory**

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Thesis submitted for the degree Doctor of Philosophy (Nursing  
Science) at the Potchefstroom Campus of the North-West University

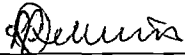
Promotor:        Professor HC Klopper

December

2009

## DECLARATION

I hereby solemnly declare that this thesis, *Positive practice environments in critical care units: A grounded theory*, presents the work carried out by myself and to the best of my knowledge does not contain any materials written by another person except where due reference is made. I declare that all the sources used or quoted in this study are acknowledged in the bibliography; that the study has been approved by the Ethics Committees of both the North-West University and the private hospital groups involved in the study; and that I complied with the ethical standards set by both institutions.



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Rone! Pretorius

December 2009

## ACKNOWLEDGEMENT

*“Call unto me, and I will answer thee, and shew thee great and mighty things, which thou knowest not”*

*~Jeremiah 33:3~*

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*~ For Rudolph ~*

## **ABSTRACT**

[**Keywords:** positive practice environment, critical care unit, constructivist grounded theory, nursing science]

### **INTRODUCTION AND AIM:**

The current shortage of nurses is a concern shared by the healthcare industry globally. Whilst the reasons for these shortages are varied and complex, a key factor among them seem to involve an unhealthy work environment. The demanding nature of the critical care environment presents a challenge to many nursing professionals and it carries the risk of a high turn over rate due to the stress and intensity of the critical care environment. The critical care nurse is responsible for caring for the most ill patients in hospitals and the acute shortage of critical care nurses contributes to the intensity and pressures of this environment. Little evidence exists of research conducted to explore and describe the practice environment of the critical care nurse in South Africa. The main aim of this research study was to construct a theory for positive practice environments in critical care units in South Africa, grounded in the views and perceptions of critical care nurses working in the private hospital context. In recognition of the fact that a positive practice environment is considered to be the foundation for the successful recruitment and retention of nurses, it was clear that issues related to staff shortages will not be resolved unless the unhealthy work environment of nurses is adequately addressed.

### **RESEARCH DESIGN AND METHOD:**

A constructivist grounded theory design was selected to address the inquiry at hand. The study was divided into two phases and pragmatic plurality allowed the use of both quantitative and qualitative data collection methods to explore, describe and contextualise the data in order to achieve the overall aim of the study. In phase one, a checklist developed by the researcher was used to describe the demographic profile of the critical care units (n=31) that participated in the study. The perceptions of critical care nurses (n=298) regarding their current practice environment was explored and described by using a

valid and reliable instrument, the Practice Environment Scale of the Nursing Work Index (PES-NWI).

In phase two, the elements of a positive practice environment were explored and described by means of intensive interviews with critical care nurses (n=6) working in the critical care environment. Concepts related to the phenomenon under investigation were identified by means of an inductive analysis of the data through a coding process and memo-writing. One core conceptual category and six related categories emerged out of the data. In the final phase of the theoretical sampling of the literature, a set of conclusions relevant to the phenomenon under study was constructed. The conclusions deduced from the empirical findings in both phases of the research process were integrated with those derived from the literature review to provide the foundation from which the theory was constructed.

#### **FINDINGS:**

The findings from the first phase of the research process provided information about the context in which the participants operate and assisted in discovering concepts considered relevant to the phenomenon under investigation. A grounded theory depicting the core conceptual category of "*being in control*" and its relation to the other six categories was constructed from the data in order to explain a positive practice environment for critical care units in the private healthcare sector in South Africa.

## **OPSOMMING**

[ **Sleutelwoorde:** positiewe praktykumgewing, kritiekesorg-eenhede, konstruktivistiese begronde teorie, verpleegkunde]

### **INLEIDING EN DOEL:**

Die huidige tekort aan verpleegkundiges is 'n probleem wat wêreldwyd ervaar word. Hoewel die redes vir hierdie tekorte uiteenlopend en kompleks is, blyk dit dat 'n sleutelfaktor onder hierdie redes 'n ongesonde werksomgewing is. Die veeleisende aard van die kritiekesorg-omgewing hou vir baie professionele verpleegkundiges 'n uitdaging in, maar skep ook die risiko van 'n hoë personeelomset as gevolg van die stres en intensiteit van die kritiekesorg-omgewing. Die kritiekesorg-verpleegkundige is verantwoordelik vir die versorging van die siekste pasiënte in hospitale, en die akute tekort aan kritiekesorg-verpleegkundiges dra by tot die intensiteit en druk van hierdie omgewing. Daar is min bewyse van navorsing wat gedoen is om die praktykumgewing van die kritiekesorg-verpleegkundige in Suid-Afrika te ondersoek en te beskryf. Die hoofdoel van hierdie navorsingstudie was om 'n teorie daar te stel vir positiewe praktykumgewings in kritiekesorg-eenhede in Suid-Afrika, wat gegrond is in die sienings en persepsies van kritiekesorg-verpleegkundiges wat in die privaat hospitaalkonteks werk. 'n Positiewe praktykumgewing word geïdentifiseer as die grondslag vir die suksesvolle werwing en behoud van verpleegkundiges; en daarom was dit duidelik dat kwessies wat verband hou met 'n personeeltekort nie opgelos sal word tensy daar 'n voldoende oplossing gevind word vir die ongesonde werksomgewing van verpleegkundiges nie.

### **NAVORSINGSONTWERP EN METODEDE:**

'n Konstruktivistiese begronde teorie-ontwerp is gekies om die onderhawige ondersoek te doen. Die studie is in twee fases verdeel, en pragmatiese pluraliteit het die gebruik van kwantitatiewe sowel as kwalitatiewe data-insamelingsmetodes moontlik gemaak om die data te ondersoek, te beskryf en te kontekstualiseer om die doel van hierdie studie te bereik. In fase een is 'n kontrolelys wat deur die navorser ontwikkel is, gebruik om die demografiese profiel van die kritiekesorg-eenhede te beskryf (n=31) wat aan hierdie studie

deelgeneem het. Die persepsies van kritiekesorg-verpleegkundiges (n=298) oor hulle huidige praktykomgewing is ondersoek en beskryf deur middel van 'n geldige en betroubare instrument, die *Practice Environment Scale of the Nursing Work Index (PES-NWI)*.

In fase 2 is die elemente van 'n positiewe praktykomgewing ondersoek en beskryf deur middel van intensiewe onderhoude met kritiekesorg-verpleegkundiges (n=6) wat in die kritiekesorg-omgewing werk. Konsepte wat verband hou met die verskynsel wat ondersoek word, is geïdentifiseer deur middel van 'n induktiewe analise van die data deur 'n koderingsproses en die skryf van memo's. In die finale fase van die teoretiese steekproef van die literatuur is 'n stel gevolgtrekkings gekonstrueer wat betrekking het op die verskynsel wat ondersoek word. Die gevolgtrekkings wat afgelei is uit die empiriese bevindings in albei fases van die navorsingsproses is geïntegreer met dié wat afgelei is uit die literatuurstudie, om die raamwerk te bied waarop die teorie gekonstrueer is.

#### **BEVINDINGE:**

Die bevindings van die eerste fase van die navorsingsproses het inligting verskaf oor die konteks waarin die deelnemers funksioneer en het bygedra tot die ontdekking van konsepte wat beskou word as van toepassing op die verskynsel wat ondersoek word. 'n Begronde teorie is uit die data gekonstrueer om die kern- konseptuele kategorie naamlik "*being in control*" uit te beeld sowel as die verband tussen hierdie kategorie en die ander ses kategorieë.

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## ACRONYMS

### A

AACN	American Association of Critical Care Nurses
AIDS	Acquired Immune Deficiency Syndrome
ANA	American Nurses Association
ANC	African National Congress
ANCC	American Nurses Credentialing Center

### C

CCSSA	Critical Care Society of Southern Africa
CCU	Critical Care Unit
CHSRF	Canadian Health Services Research Foundation

### D

DOH	Department of Health
DPSA	Department of Public Service and Administration

### H

HASA	Hospital Association of South Africa
HCU	High Care Unit
HIV	
HSRC	Human Sciences Research Council
HST	Health Systems Trust

### I

ICN	International Council of Nurses
IMCSA	

### K

KMO	Kaizer-Meyer-Olkin
-----	--------------------

### M

M	Mean
---	------

### N

NWI	Nursing Work Index
NWI-R	Revised Nursing Work Index
NWU	North-West University

**P**

PES-NWI Practice Environment Scale of the Nursing Work Index

**R**

RNAO Registered Nurses Association of Ontario

RN4CAST Registered Nurse Forecast

**S**

SADHS South African Demographic and Health Survey

SANC South African Nursing Council

SD Standard deviation

**W**

WHO World Health Organisation

“Recruiting and retaining an adequate nursing workforce is a priority as well as a challenge.



Creating an environment that respects every individual's unique differences is key”

~Frusti, 2003~

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## **CHAPTER 1**

# INTRODUCTION AND OVERVIEW OF THE STUDY

---

## 1.1 INTRODUCTION

The growing number of nurse shortages in critical care units in South Africa presents a unique challenge and requires a context-specific solution. A review of the workforce profile of critical care nurses in Western Cape hospitals reported a deficit of 72% of nurses in public sector hospitals, and a deficit of 80% in the private hospital sector (Gillespie, Kyriacos & Mayers, 2006:55). The results of the study concluded that the current supply of critical care nurses in the Western Cape does not meet the demand of critical care units in the province. The literature suggests several possible reasons for this acute shortage, but a key factor among the reasons seems to involve the work environment of the nurse. The aim of this study was to construct a grounded theory for positive practice environments in critical care units in the private healthcare sector in Gauteng.

The South African healthcare sector constitutes two healthcare delivery systems. The first and largest is the public sector that delivers free healthcare services to about 80% of the population. The second delivery system is the smaller but fast-growing private sector that offers health care services to the remaining 20% of the population, generally those who can afford health insurance or are covered through employment (International Market Council of South Africa, 2008). The phenomenon of positive practice environments is a relatively unfamiliar concept to critical care units in Gauteng, and thus, in this chapter, I present a concise overview of the study. This study forms part of an international collaborative research programme, the Registered Nurse Forecast (RN4CAST), which aims to develop human resource forecast models in nursing (Sermeus, Aiken, De Geest, Diomidous, Durna, Ekman, Klopper, Liu, Matthews, Morena-Casbas, Rafferty, Scott, Schoonhoven, Schubert, Shaibu, Tishelman, Antypas, Brzostek, Bommels, Busse, Clarke, Delaure, Frigas, Griffiths, Gustavsson, Kinnune, Liaskos, Lesaffre, Mantas, Van Achterberg, Van Den Heede, Wörz & Zikos, 2008). In order to describe critical care nurses' current practice environment, I used the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002) that was included in the RN4CAST project. Information on the RN4CAST project that is relevant to this research study such as the PES-NWI will be discussed at length in Chapter 3 of this thesis.

In order to address the phenomenon of positive practice environments in private critical care units in Gauteng, I chose to construct a theory that was grounded in the data. In light of the subjective epistemological fit of constructivism, I will present the data in this study in the first person to provide a true reflection of my subjective role as the co-creator of new meaning in the theory.

## 1.2 BACKGROUND AND PROBLEM STATEMENT

Although the current shortage of nurses is a concern shared by the healthcare industry globally, the shortage of nurses in critical care units (CCUs) in South Africa presents a unique challenge. There is very little information on the need for and supply of workforce capacity in South African CCUs (Gillespie *et al.*, 2006:50), but it is reported that South Africa had 3800 trained critical care nurses listed on the registers of the South African Nursing Council in 2003 (Thom, 2003). This number has since decreased to 2537 in 2005 (SANC, 2007). Nurses are considered to be frontline staff in delivering safe and effective healthcare (Buchan & Calman, 2004:7) and consequently the human resource crisis in healthcare is most felt at a nursing level.

The reasons for the shortage of nurses are varied and complex, but a key factor among them seems to be an unhealthy work environment<sup>1</sup> (Baumann, 2007). The environment of the critical care nurse is demanding and stress-filled, and care constantly involves the highest level of assessment and intervention (Robinson, 2004:411). The demanding nature of the CCU presents a challenge to many nursing professionals, but it also carries the risk of a high turnover rate due to the level of stress inherent in that context. The critical care nurse is responsible for caring for the most ill patients in hospital, and the shortage of critical care nurses contributes to the intensity and pressures of this environment (Richards, Argent, Michell, Mathiva, Pretorius, Raine & Spruyt, n.a).

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<sup>1</sup> Various authors that report on the work environment of nurses seem to use the term “positive practice environment” and “healthy work environment” interchangeably. In this research study, I recognise the meaning of the two concepts to be similar in nature, but will use the name assigned by the authors as it appears in the literature.

The need to create a healthy work environment that will encourage nurses to work in CCUs was identified as an essential component in nurse job satisfaction and turnover rates, and it was shown to play a positive role in patient outcomes (Ulrich, Lavandero, Hart, Woods, Leggett & Taylor, 2006:46). Shirey (2006:256) supports this view in stating that creating a healthy work environment is a priority for maintaining an adequate nursing workforce.

The work environment refers to the social-psychological characteristics of a work setting (Chan & Huak, 2004:207). These characteristics are determined by many factors and include the physical features, the organisational policies and the characteristic behaviour of people at work. Shirey (2006:258) defined a healthy work environment as a work setting in which policies, procedures and systems are designed so that employees are able to meet the organisational objectives and achieve personal satisfaction in their work. The characteristics of a healthy work environment have been described extensively in international literature. In a paper on the standards for healthy work environments, the American Association of Critical Care Nurses (AACN, 2005:189) stated that a healthy work environment includes standards for skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition and authentic leadership. Heath, Johanson and Blake (2004) identified four elements consistent with the standards of the AACN for creating and maintaining healthy work environments. According to Heath *et al.* (2004), the first element in creating and maintaining healthy work environments includes the respectful and fair treatment of employees. Secondly, healthy and effective work environments exhibit a strong sense of trust between management and employees. The third element of a healthy and effective work environment involves an organisational culture that supports communication and collaboration, views individuals as assets and considers decisions in light of their influence on the mission of the organisation and the employee. The last element concluded that a healthy work environment must exhibit a “feeling tone” – this is commonly described as a sense of belonging, or a sense of family between the employee and the organisation as a whole.

The AACN (2005:191) recognises the relationship between staff shortages and an unhealthy work environment, in stating that a healthy work environment is the base for recruiting and retaining nurses. It further maintains that issues related to staff shortages will not be solved unless the unhealthy work environment of the nurse is adequately addressed. According to a report by Ulrich *et al.* (2006:46), a shortage of nurses contributes to poor collaboration among healthcare colleagues, perpetuation of abusive behavior among colleagues, hospital cost-cutting and the resultant reduction in hospital resources to support nursing care, lack of adequate educational preparation, and overwork and stress resulting from growing patient care assignments.

Little evidence exists of research conducted to explore and describe the work environment of the critical care nurse in South Africa. The research that has been done has been undertaken internationally and does not focus exclusively on the so-called practice environment of the critical care nurse. From these studies, I could not conclude that the findings were transferable to a South African context. The uniquely different work environments of CCUs in the South African healthcare delivery system therefore prompted an investigation into the practice environment of the critical care nurse in this country. In light of the current deficit of critical care nurses in the private hospital sector, this study focused exclusively on the private sector context in Gauteng province. The selection of the setting for this research study was based on two considerations. Firstly, unhealthy work environments may be prominent in Gauteng as it is a densely populated area and it serves a large part of the population in terms of healthcare (Scribante & Bhagwanjee, 2007b:1324; Statistics South Africa, 2009), and secondly, the chosen settings were convenient being easily accessible in terms of location.

In order to address the problem presented in the argument above, the following questions were developed:

1. What is the demographic profile of CCUs in the private hospital sector in Gauteng?
2. What does the current practice environment of the critical care nurse entail?
3. What is a positive practice environment according to the critical care nurses?

4. What will a grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng look like?

### **1.3 AIM AND OBJECTIVES**

In light of the problem statement and identified research questions, the following aim and objectives were identified: As stated earlier, the overall aim of the research study was to construct a grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng. In order to address the main aim of the study, the following objectives were identified:

1. To explore and describe the demographic profile of private CCUs in Gauteng, focusing on the type of unit, number of beds, bed turnover rate, average patient acuity, skill mix, staff turnover rate and staff absenteeism.
2. To explore and describe the current practice environment of the critical care nurse in private CCUs in Gauteng using the PES-NWI (Lake, 2002).
3. To explore and describe the perceptions of critical care nurses regarding the elements of a positive practice environment.

### **1.4 CENTRAL THEORETICAL ARGUMENT**

I will explore a relatively unfamiliar phenomenon with no existing models and theories within a South African context. Pragmatic plurality within constructivism allowed me to collect data, both qualitatively and quantitatively, in order to construct a theory for positive practice environments in CCUs in the private hospital sector in Gauteng. The theory is grounded in the exploration and description of the current practice environment of the critical care nurse, as well as the perceptions of the critical care nurse regarding the elements of a positive practice environment.

## **1.5 RESEARCHER'S ASSUMPTIONS**

The researcher's assumptions serve as a determinant for the decisions made by the researcher and are grounded in a philosophical paradigm. These assumptions are stated explicitly in order to provide a point of departure and justify decisions made during the research process. The foundation of the philosophical paradigm from which I conducted the research study was based on a Christian view. Within the Christian perspective, I believe in the divinity of the Father, Son and the Holy Spirit.

The components of my paradigm are stated in the following assumptions:

### **1.5.1 Meta-theoretical assumptions**

According to Botes (1995:9), the meta-theoretical assumptions are based on the researcher's view of the world and society. In this case, my assumptions are based on a Christian philosophy and originate from my belief system. The meta-theoretical assumptions have no epistemic value and provide an overt description of my belief concerning the world and society. I believe that nurses are committed professionals who embrace a holistic philosophy of care and that caring takes place in a specific context and that context relates to a specific environment. I believe that the environment of the critical care nurse is a dynamic environment that presents constant challenges, and I support the view of symbolic interactionism in that the critical care nurse create his/her own reality by attaching meaning to different situations. Meaning is expressed through words, and the symbolic meaning of words forms the basis for his/her actions and interactions. I acknowledge the fact that symbolic meanings can be different for each individual and for that reason I aimed, in this study, to capture the differences in meaning by ascribing to a relativist ontological position rooted within the constructivist paradigm. I am of opinion that when the environment of the critical care nurse is studied through a grounded theory method, a new viewpoint could be constructed from the data which is specific to the South African context. Although I depart from a relativist ontological view in terms of the meaning of concepts related to this research study, I want to emphasise the fact that my view of God does not support the existence of multiple realities. God to me encompasses only One Truth and that Truth cannot be reconstructed.

### **1.5.1.1 View of man**

In this research study man refers to the critical care nurse. As a human being, the critical care nurse is a holistic being made up of a physiological, psychological, and spiritual dimension. Human beings are in constant interaction with their environment and create reality through their interaction with each other. The environment provides the stage for our interaction and has an influence on our physiological, psychological and spiritual dimension. Man cannot exist in isolation to the environment. It is therefore important that the environment sets a positive stage to develop our dimensions optimally. In the research study the following concepts are defined in relation to my view of man:

- **The critical care nurse**

The critical care nurse is a skilled and competent individual registered with the South African Nursing Council as a professional nurse in terms of the Act on Nursing, Act 50 of 1978, as amended in 2005 (Act 33 of 2005), and in accordance with Regulation 212 of 1993 as amended in Regulation 74 of 1997 regarding the registration of an additional qualification in Clinical Nursing. The critical care nurse is an advanced practitioner caring for the sickest of the sick and brings clinical expertise to acute care across a variety of health care settings. The critical care nurse leads the care management processes that are essential in today's health care environment (University of California, San Francisco, School of Nursing, n.a).

### **1.5.1.2 Health**

According to the World Health Organisation (WHO, 1948), health can be defined as a "state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". In this research study the concept of health refers to the overall state of well-being of the critical care nurse provided by a positive practice environment.

### **1.5.1.3 Nursing science**

I view nursing science to be the organised body of knowledge of nursing acquired in a scientific manner. Nursing science encompasses nursing – the caring for patients – and nursing practice – the art of caring for patients. Within nursing science there are theories and frameworks that guide the practice of nursing in a professional and unique manner.

#### **1.5.1.4 Nursing**

In this study I ascribed to the International Council of Nurses' (ICN, 1987) definition of nursing which states that: "Nursing encompasses autonomous and collaborative care of individuals of all ages, families, groups and communities, sick or well and in all settings. Nursing includes the promotion of health, prevention of illness, and care of the ill, disabled and dying people. Advocacy, promotion of a safe environment, research participation in shaping policy, and in the education are also key nursing roles". Within the environment of the CCU, nursing encompasses caring for critically ill patients, often unable to speak for themselves, and the advocacy role of the nurse is therefore very prominent in this setting. The promotion of health in the CCU relies heavily on support and advanced care provided by nurses and complex life support systems.

#### **1.5.1.5 Environment**

The environment comprises societal structures where man co-exists as a physical, psychological and spiritual being with other living elements. The environment in this study comprised every element in the surroundings of the critical care nurse that influences or impacts on her<sup>2</sup> life. For the critical care nurse, the environment includes all beings in interaction in the CCU. These beings include the critical care nurse, nurse managers, patients, family members of patients, members of the multidisciplinary team and other members of the healthcare organisation.

I believe that a positive practice environment is an environment that communicates with the identity of the critical care nurse, allows opportunity for personal and professional growth, recognises and values critical care nursing staff and provides a sense of belonging. The theoretical meaning of the phenomenon "positive practice environment" and its related categories will be discussed in Chapter 6 of this thesis.

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<sup>2</sup> Please note that his/her will be used interchangeably when referring to the critical care nurse in this research study.

### **1.5.2 Theoretical assumptions**

Botes (1995:5) explains that the researcher needs to make a thorough study of the existing theoretical pronouncements in order to be able to state his/her theoretical assumptions. Unlike the meta-theoretical assumptions, these assumptions are testable and offer epistemic value. In the research study knowledge was generated from systematic, yet flexible guidelines to construct a theory that is “grounded” in the data itself (Charmaz, 2006:2; Strauss & Corbin, 1998). The findings presented in Chapter 3 and the categories derived from the data in Chapter 4 were compared with a subsequent review of the literature (Chapter 5) and the resultant theory will be presented in Chapter 6.

#### **1.5.2.1 Models and theories**

With a grounded theory design, the phenomenon under investigation must be explained in light of a conceptual framework that evolves during the research itself (Strauss & Corbin, 1990:49). Therefore, the initial decisions were not based on a preconceived theoretical framework, but rather an acknowledgement of an existing model that was useful in discovering elements relevant to the phenomenon under study. In the research study I utilised the following model as a point of departure:

- **The Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006a:14)**

According to the Registered Nurses Association of Ontario (RNAO, 2006a:14), the healthy work environment of the nurse is a complex and multidimensional environment (refer to figure 1.1). It comprises three components, namely: the physical/structural/policy component, the professional/occupational component, and the psycho/social/cultural component. Several factors exist within each of the components and the relationships between the components reflect the healthy work environments as a product of the interdependence among individual (micro level), organisational (meso level) and external (macro levels) system determinants. The model suggests that the individual’s functioning is mediated and influenced by interactions between the individual and his/her environment. This view is supported by symbolic interactionism, the philosophy that underlies the grounded theory method, in that individuals co-create reality through interaction with each

other and the environment. The model suggests that interventions to promote a healthy work environment must be aimed at multiple levels and components of the system.

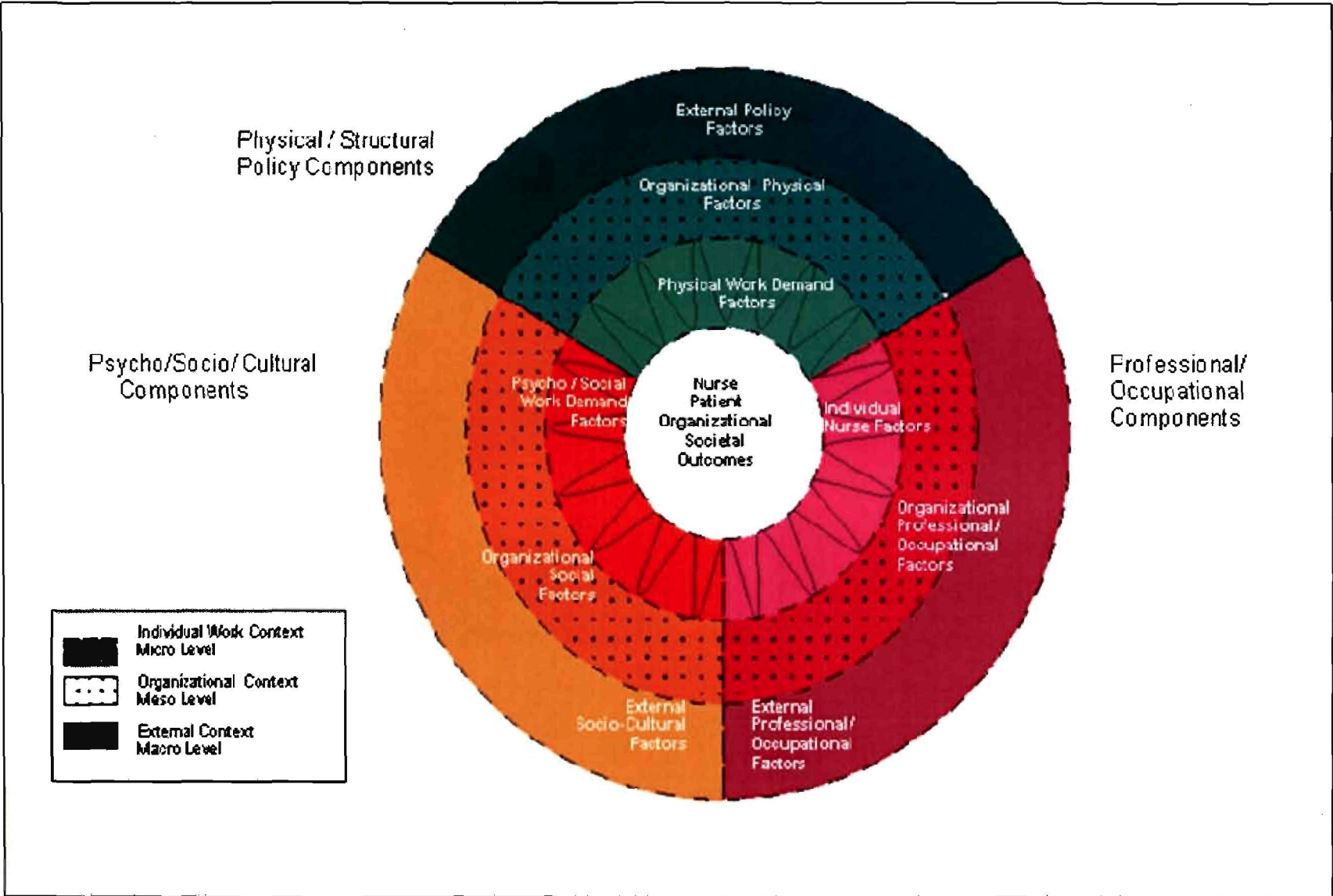


Figure 1.1 Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006a:14)

### **1.5.2.2 Definitions**

The research study followed the constructivist grounded theory design and the definition of the concepts was derived from the data analysis and subsequent literature review. The following concepts are regarded to be central to the research study. An initial understanding of the concepts is provided to enable a common understanding between the researcher and the reader. A revised definition of the concepts, based on the findings of the study, is presented in Chapter 6.

#### **1.5.2.2.1 Positive practice environments**

According to the International Council of Nurses (2007), "positive practice environments" are "settings that support excellence and decent work. In particular, they strive to ensure the health, safety and personal well-being of staff, support quality patient care and improve the motivation, productivity and performance of individuals and the organisation". Most of the literature on the work environment of nurses seems to refer to the concept of healthy work environments and I could not conclude that there was a significant difference between the phenomenon of a positive practice environment and a healthy work environment. In this research study, the phenomenon of a positive practice environment was explored.

#### **1.5.2.2.2 Critical care unit (CCU)**

A critical care unit, according to Gillespie *et al.* (2006:52), comprises a designated area in a hospital in which critically ill patients are cared for by a team of specialised members of a multi-disciplinary team. The nurse: patient ratio is typically lower in these units, compared to that in the wards. The critical care unit is designed to provide comprehensive care to critically ill patients and contains complex multi-system life support equipment such as mechanical ventilation, renal replacement therapy, inotropic support and invasive cardiovascular monitoring.

### **1.5.3 Methodological assumptions**

The methodological assumptions are rooted in science philosophy and state the researcher's view of the nature and structure of science and research in a specific discipline (Botes, 1995:5).

Pragmatic plurality suggests that knowledge developed from one perspective can complement knowledge developed from another perspective (Weaver & Olsen, 2006:464). The inquiry presented in this nursing research study was therefore effectively studied through a pragmatic approach. Burns and Grove (2001) state that in research, the purpose and question guide the method for knowledge development. The value of an idea is determined by its outcomes in practice through critical analysis of facts and applications, rather than abstraction and verbal solution (Weaver & Olsen, 2006:466). A pragmatic approach provided the opportunity to conduct research with the intention to better the practice of nursing science.

Within the context of the research study I supported the participants' construction of reality through interaction. The constructivist approach in grounded theory views the data collection and analysis process as creations of shared experiences and relationships with the participants and other sources of data (Charmaz, 2006:130). The interaction between myself and the participants provided an emic perspective of their (the participants') view of the phenomenon under study. Although I could not replicate the experiences of the participants, my interpretation of the data contributed to the construction of the theory. The theory depended equally on my assumptions – it could not stand outside of it (Charmaz, 2006:130) – as on the participants' experiences. Within the constructivist grounded theory design I was able to take a reflexive stance towards the data collected and consider how the theory would evolve, using both my and the participants' interpretation of the meaning of the phenomenon under study (Charmaz, 2006:131).

## **1.6 RESEARCH DESIGN**

Given the inquiry presented by the research questions, the study followed a constructivist grounded theory design. Both qualitative and quantitative methods were employed in exploring, describing and contextualising the data in order to achieve the aim of the study. According to Charmaz (2006:187), constructivist grounded theory entails the creation of a theory through the inductive analysis of the data, meaning that the analytical categories derived are "grounded" in the data. Strauss and Corbin (1998:18) argue that theorising is

the “act of constructing from the data an explanatory scheme that systematically integrates various concepts through relational statements”.

In this research study, concepts related to the phenomenon of positive practice environments in critical care units were identified and described. The concepts were systematically organised and integrated through relational statements to **construct the theory**. As stated earlier, pragmatic plurality provided me with the opportunity to study the phenomenon from a quantitative and qualitative perspective in order to develop new knowledge. The conclusion based on the findings of the data that were analysed quantitatively and qualitatively was included in the conceptual ordering of the study. Both inductive and deductive reasoning was used to recognise concepts and relationships between them in order to construct a theory for positive practice environments in CCUs in the private hospital sector in Gauteng. To that end I used the IDLE™ method described by Klopper (2010) to generate conclusions from the empirical data, which served as evidence for the relational statements. The IDLE™ method and subsequent relational statements will be discussed in chapter 6 of this research study.

The data collected to describe the demographic profile of CCUs and the current practice environment of critical care nurses were analysed **quantitatively**. The data required to determine the demographic profile of the critical care units were collected by means of a checklist that I developed and included variables derived from the literature. The current practice environment of critical care nurses’ were explored by means of the PES-NWI (Lake, 2002). Both the checklist and the PES-NWI will be discussed at length in Chapter 3.

**Qualitative** research methods, in particular intensive interviews, were used to explore and describe the perceptions of critical care nurses on the elements of a positive practice environment. The qualitative inquiry was relevant because the phenomenon of positive practice environments is relatively unfamiliar in the South African context (Polit & Beck, 2004:19). The design was both **descriptive** and **explorative** in nature as it departed from the emic perspective of the critical care nurse on positive practice environments. The descriptive mode provided me with rich detail on the phenomenon of positive practice

environments and a clear picture of “what is going on”, thus grounding the theory in the data collected (Burns & Grove, 2005:57).

According to Strauss and Corbin (1990:96), the **context** refers to a specific set of properties – that is, the locations of events or incidents – that pertain to the phenomenon under study. The research study was conducted within selected CCUs of private hospital sector in Gauteng. The findings of the study were therefore valid in the specific context in which the study was conducted (refer to Chapter 3).

## 1.7 RESEARCH METHOD

Data collection and the analysis of the data occurred in two phases. An overview of the research methods used during each of the phases is presented in Table 1.1. During phase 1, I addressed objectives 1 and 2 of the study by collecting data that described the context of the study. Data collection methods included a checklist and the PES-NWI (Lake, 2002). The data analysis was done using the computer software programmes SPSS 16.0 (SPSS, 2007) and Epidata (Lauritsen, 2008) and included descriptive statistics.

The demographic profile of the CCU alluded to in objective 1 was described in terms of the checklist developed that measured seven variables. The variables included (1) type of unit (medical, surgical, trauma, multi-disciplinary or other), (2) the number of beds in the unit, (3) the bed turnover rate of the unit, (4) the average patient acuity of the unit, (5) the skill mix in the unit in terms of trained critical care nurse, in other words, nurses registered with the SANC to have an additional qualification in clinical nursing or critical care nurses with experience in the critical care environment, (6) the staff turnover rate and (7) the staff absenteeism profile. The checklist is included as Annexure C.

In terms of objective 2, data on the current practice environment of critical care nurses were collected using the PES-NWI (Lake, 2002). The PES-NWI was included as part of the RN4CAST instrument distributed to the private hospital sector in Gauteng. The results for the PES-NWI for critical care units were extrapolated from the RN4CAST questionnaire. The PES-NWI has proven to be a valid and reliable tool for measuring the practice environment

of hospital nurses (Lake & Friese, 2006:3) and has also been endorsed by the National Quality Forum as a national voluntary consensus standard for nursing-sensitive care (National Quality Forum, 2004).

The PES-NWI comprises 31 items in 5 subscales that characterise the nature of professional nursing practice in the original Magnet hospitals in the United States of America (Lake, 2002:3). The PES-NWI is attached as Annexure D.

Table 1.1 Research methods used in each phase

PHASE ONE: ADDRESSING OBJECTIVES 1 AND 2					
OBJECTIVE	STEP	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	DESCRIPTION OF METHODS
1. To explore and describe the demographic profile of CCUs in the private hospital sector in Gauteng focusing on the type of unit, number of beds, bed turnover rate, average patient acuity, skill mix, staff turnover rate and staff absenteeism.	Step 1: Exploring and describing the demographic profile of critical care units in private hospital sector in Gauteng.	Checklist completed by unit manager of each of the critical care units.	<b>Population:</b> Critical care units in private hospitals in Gauteng (N=42). <b>Sample:</b> All inclusive sample (n=31).	Descriptive Statistics.	Discussed in Chapter 3.
	2. To explore and describe the current practice environment of the critical care nurse in CCUs in the private hospital sector in Gauteng using the Practice Environment Scale of the Nursing Work Index (PES-NWI).	Step 2: Exploring and describing the current practice environment of critical care nurses in private hospital sector in Gauteng.	Practice Environment Scale of the Nursing Work Index (Lake, 2002).	<b>Population:</b> Critical care nurses working in the selected critical care units (N=741). <b>Sample:</b> All inclusive sample (n=298).	Descriptive Statistics.
	Step 3: Description of the context.	From steps 1 and 2.			Discussed in Chapter 3.

PHASE 2: ADDRESSING OBJECTIVE 3 AND OVERALL AIM					
OBJECTIVE	STEP	DATA COLLECTION	POPULATION AND SAMPLE	DATA ANALYSIS	DESCRIPTION OF METHODS
3. To explore and describe the perceptions of critical care nurses regarding the elements of a positive practice environment.	Step 4: Exploring and describing the perceptions of critical care nurses regarding the elements of a positive practice environment.	Intensive interviewing (Charmaz, 2006: 28-35; Kvale & Brinkman, 2009).	<b>Population:</b> Critical care nurses working in the selected critical care units (N=298). <b>Sample:</b> Purposive sampling (n=6).	<ul style="list-style-type: none"> <li>Primary concept development through analysing, comparing, labeling and categorising of the data (Strauss &amp; Corbin, 1998; Charmaz, 2006:43-71).</li> <li>Memo writing to direct the researcher (Charmaz, 2006:73-94; Strauss &amp; Corbin, 1990:204).</li> </ul>	Discussed in Chapter 4.
	Step 5: Coding process and memo-writing (Strauss & Corbin, 1998; Charmaz, 2006:43-63)				
<b>OVERALL AIM:</b> To construct a grounded theory for positive practice environments for CCUs in the private hospital sector in Gauteng.	Step 5: To synthesize the data after coding into a conceptual ordering.	From steps 1-5 and relevant literature; (Strauss & Corbin, 1990:108).	Step 6: Theoretical sampling (Strauss & Corbin, 1990:176) to further develop categories.	Synthesis of the data by connecting the categories (Charmaz, 2006: 60; Strauss & Corbin, 1998).	Discussed in Chapter 5 and 6.
	Step 7: Description of the grounded theory.	Integration and synthesis of the data	Evidence from steps 1-6.	Theory construction through inductive	Discussed in Chapter 6.

Step 8:  
Evaluation of the  
theory.

from steps 1-6.

reasoning and synthesis  
of the data; relating the  
categories to the core  
category.

Discussed in  
Chapter 6.

In phase 2 (objective 3), data collection and analysis occurred as an interwoven process, and although the steps are presented linearly, it occurred simultaneously as I continuously moved between one form of coding and another in analysing the data in order to construct the theory (Strauss & Corbin, 1990). The exploratory and descriptive data concerning the perceptions of critical care nurses on the elements of a positive practice environment were guided by open-ended questions during the initial phase of the interview. These questions were based on the concepts derived from the literature. The questions were considered provisional and exploratory in nature and provided me with a place to start (Strauss & Corbin, 1990:180). The subsequent questions were directed by the interview and were aimed at exploring concepts that emerged during the interviews.

### **1.7.1 Setting**

CCUs in the private hospital sector in Gauteng (N=42) provided the setting for the research study. According to the Hospital Association of South Africa (HASA, 2009:138), the private hospital sector encompasses an estimated 259 hospitals and is largely controlled by three dominant groups, namely Netcare, Medi-Clinic and Life Healthcare. Two of the three groups granted permission to conduct the research in their facilities. The private hospital sector delivers healthcare services to about 20% of South Africa's middle- and high-income earners that can afford to contribute to a medical aid (IMCSA, 2008). The private hospital sector fulfils a vital role in terms of meeting the healthcare needs of more than seven million South Africans, and contributes positively to the social and economic stability of South Africa (HASA, 2009:43).

### **1.7.2 Population**

The population for the research study included:

1. Any discipline adult CCU within the private hospital sector in Gauteng with more than 100 beds. The decision to include hospitals with more than 100 beds was based in part on the guidelines provided by the RN4CAST research programme and to ensure the homogeneity of the sample.
2. Registered nurses working in CCUs in the private hospital sector in Gauteng who were trained as critical care nurses or had experience in critical care nursing and who were

proficient in either Afrikaans or English. Critical care nurses with experience typically do not have an additional qualification in critical care nursing but work in the critical care environment.

### **1.7.3 Sample**

Participants and settings considered relevant to the study was included in the sample. Theoretical sampling directed further data collection during the study to the categories that constituted the theory (Charmaz, 2006:96). Theoretical sampling as it occurred in this study will be discussed in Chapters 4 and 5 of this thesis.

Sampling occurred as follows:

1. An all inclusive sample (N=42) CCUs within the private hospital sector in Gauteng that met the following criteria were selected:
  - The CCU had to be based in a hospital with a bed capacity of more than 100 beds.
  - Only adult CCUs were selected; and
  - CCUs involved in all disciplines of care were included, i.e. trauma, medical, surgical and multi-disciplinary units. Multi-disciplinary units in the context of the research study refer to units that admit both surgical and medical cases to the unit.
  
2. The sampling of critical care nurses occurred in two stages. In stage 1, all critical care nurses working in the forty-two CCUs were asked to complete the PES-NWI. According to the staff figures provided by the hospitals, the nurse population for critical care units amounted to 741 (N=741). The PES-NWI was completed by 298 nurses (n=298). To ensure homogeneity of the sample, I selected only participants who met the following criteria:
  - Nurses must have been registered with the South African Nursing Council and either trained as a critical care nurse or with experience in critical care nursing.
  - Nurses had to be proficient in Afrikaans or English.

In stage 2, critical care nurses were selected purposively in accordance with the inclusion criteria to participate in the intensive interview. I extended a written invitation to the

critical care nurses working in the selected CCUs to participate in an intensive interview. A total of 6 (n=6) critical care nurses were selected to participate in this section of the study. I employed theoretical sampling throughout the data analysis process to address the voids that occurred, and to ensure that the data collected contributed to the construction of the theory (de Vos, Strydom, Fouche & Delpont, 2005:328). The process was repeated until theoretical saturation occurred.

## **1.8 RIGOUR**

Marshall and Rossman (1995, quoted in De Vos *et al.*, 2005:345) stated that all research must be evaluated against a set of criteria for the trustworthiness of the project. Given the inquiry presented and the employment of both qualitative and quantitative data collection methods, the rigour of the findings will be presented at the end of each chapter reporting on the quantitative and qualitative findings of the study.

Quantitative research is guided by the principles of validity and reliability to ensure the generation of valid and scientific knowledge. De Vos *et al.* (2005: 160-161) distinguish between four types of validity to ensure that the instruments being used accurately reflects the concept or concepts it is supposed to measure. A comprehensive discussion with regards to face validity, content validity, criterion validity and construct validity of the checklist and PES-NWI is presented in Chapter 3. A discussion on the reliability of the instruments used, which refers to the consistency of measurement, is also presented in Chapter 3.

Scientific rigour is valued because it is associated with greater worth of the research outcomes, and the evaluation of rigour in a qualitative study is based in part on the logic of the emerging theory and the clarity with which the researcher shed light on the studied phenomenon (Burns & Grove, 2007:91). The universal principles of trustworthiness, as described by Lincoln and Guba (1985), were employed to enhance the rigour of the qualitative findings. These principles include strategies for credibility, transferability, dependability and confirmability and are discussed in Chapter 4. Chiovitti and Piran

(2003:427) maintain that the *subjectivity associated with qualitative research emphasises the importance of explaining the process by which a theory about a particular phenomenon is generated. As such strategies for credibility, auditability and fittingness were applied to ensure the rigour of the grounded theory. These strategies are discussed in Chapter 6 of the thesis.*

## **1.9 ETHICAL CONSIDERATIONS**

Prior to conducting this research a proposal was submitted to the Research Ethics Committee of the North-West University (Potchefstroom Campus) for ethical approval (Certificate number: NWU 0015-08-S1) (refer to Annexure A). A proposal was also sent to the Ethics Committees of each of the three private hospital groups. Permission to collect data was obtained from two of the hospital groups (refer to Annexure B). The fundamental ethical principles of respect, beneficence and justice as described by Brink, van der Walt and van Rensburg (2006:31-32) guided the inquiry.

- Respect for persons – the autonomy of individuals and their right to decide whether or not to participate in the research study was recognised throughout the study. The decision of the participant carried no risk of penalty or prejudice and the participants had the right to withdraw from the study at any time.
- Beneficence – participants had the right to protection from any discomfort or harm. The exploratory risks inherent in a qualitative enquiry were controlled for by providing opportunities for counselling and debriefing.
- Justice – participants were selected for reasons directly related to the research problem. The participant's right to privacy was respected in that all the data were processed anonymously. The data gathered during the study were kept in a safe place and not made available to any other persons.

In recognition of voluntary participation and the right to protection, informed consent was obtained from each of the participants, that is, the critical care nurses, as well as their managers at their place of employment, that is, the healthcare facilities where the study was conducted. The informed consent document provided comprehensive information on

the research study and the data that would be collected. Participants had to indicate their degree of understanding, and voluntary consent was obtained when the participant demonstrated a clear understanding of the research study (Brink *et al.*, 2006:36-38). A comprehensive discussion of how the ethical considerations were adhered to is presented in Chapter 2 of the study (refer to table 2.2).

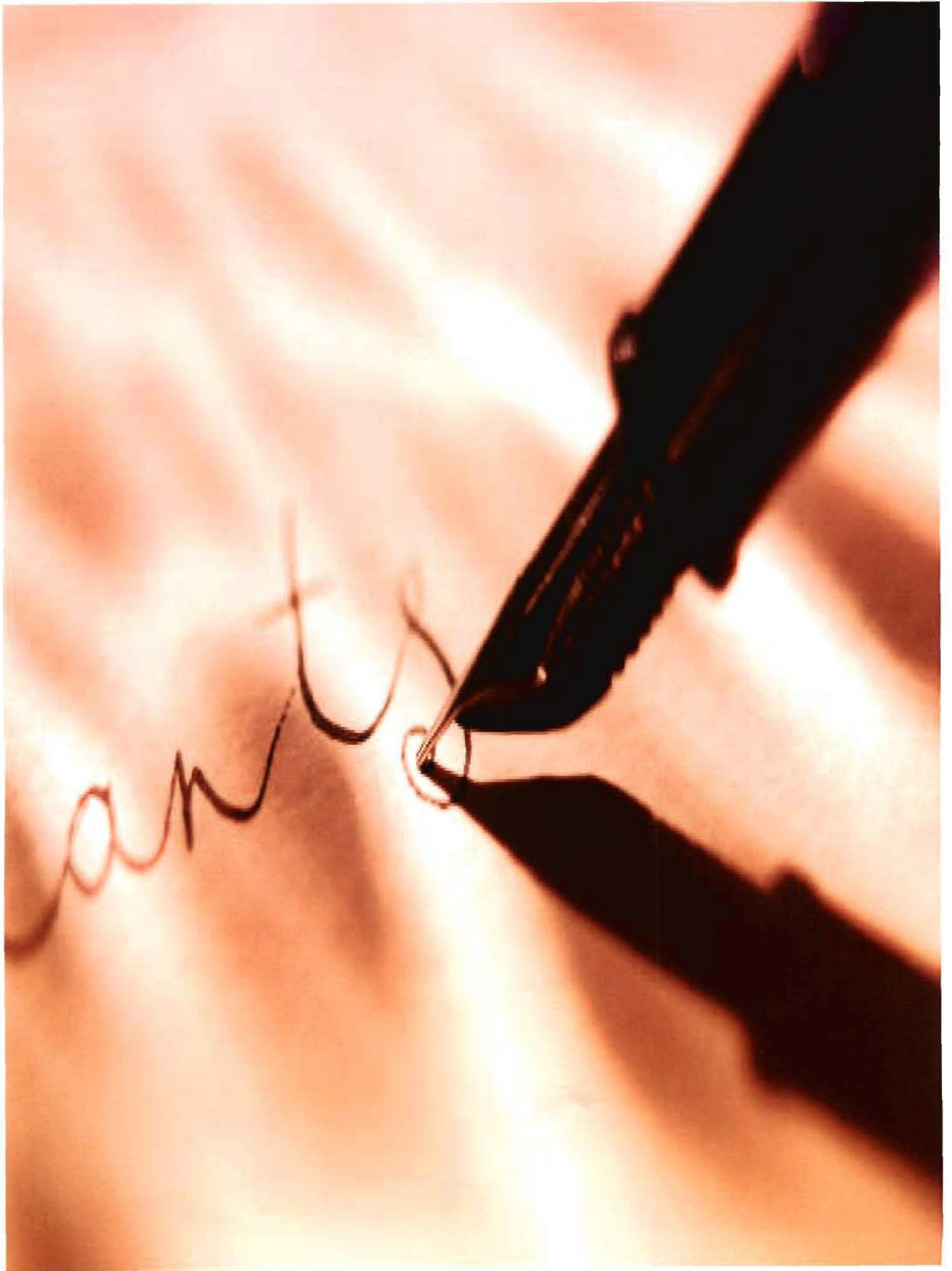
#### **1.10 CLASSIFICATION OF THE CHAPTERS**

The outline of the chapters in this thesis is as follows:

- Chapter one:** Introduction and overview of the study.
- Chapter two:** The philosophy and science of the research design and method.
- Chapter three:** Presenting the context.
- Chapter four:** Determining the concepts and categories.
- Chapter five:** Presenting the literature review.
- Chapter six:** Theory construction and evaluation.
- Chapter seven:** Towards the future: limitations and recommendations.

#### **1.11 SUMMARY**

In this chapter, I presented the reader with an overview of the study to construct a grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng. The background and problem statement, which provided the foundation for the aim and objectives of the research study, were discussed. This was followed by a description of the research design and -method that was used to construct the theory. In the following chapters, I will elaborate on each of the topics addressed in the overview. As such, Chapter 2 will provide the philosophical and scientific justification for the research design and -method.



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## **CHAPTER 2**

# THE PHILOSOPHY AND SCIENCE OF THE RESEARCH DESIGN AND -METHOD

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## **2.1 INTRODUCTION**

In Chapter 1, the reader was presented with an overview of the research study. Chapter 2 continues with a discussion of the selected research design and -methods used in achieving the aim and objectives of the study. In order to familiarise the reader with the constructivist approach to grounded theory, a brief history and discussion of the philosophical underpinnings of grounded theory is used as a point of departure. The chapter also provides a scientific discussion of the quantitative and qualitative data collection methods used in the study. Chapter 2 concludes with a review of the ethical considerations related to the research study.

## **2.2 THE ORIGINS OF GROUNDED THEORY**

A discussion of the origin of grounded theory research and the philosophy that underpins the design will be provided in the paragraphs that follow.

### **2.2.1 Founders of grounded theory research**

Research during the 1960's was predominantly guided by a positivist paradigm, that acknowledged quantitative designs as the most scientific and valid methods in acquiring knowledge. Research conducted within the positivist paradigm ascribed to the epistemological underpinnings of objectivity and aimed to reduce human qualities to quantifiable variables. The positivistic methods assumed an unbiased and passive observer who collected facts but did not participate in creating them (Charmaz, 2006:5).

In an attempt to counter the assumptions of quantitative research during the 1960s, two sociologists developed a new approach to qualitative data analysis. Grounded theory as a new approach to research was presented by the sociologists Barney Glaser and Anselm Strauss in their 1967 text, *The Discovery of Grounded Theory* (Wuest, 2007:240). They described grounded theory as a systematic qualitative analysis of data, which has its own logic and can generate theory (Charmaz, 2006:5). The theory is generated through a process of data collection that is described as inductive in nature, as the researcher has no preconceived ideas to prove or disprove (Mills, Bonner and Francis, 2006:3). Glaser and Strauss presented a strong argument to legitimise qualitative data, in moving beyond the

descriptive nature of the qualitative inquiry to a more abstract conceptualisation of the phenomena under study (Charmaz, 2006: 6).

Strauss's approach to grounded theory changed over time and this shift was captured in the texts written with Juliet Corbin, which exhibited a more prescriptive approach to the analysis of data (Wuest, 2007:240; Strauss & Corbin, 1998). This later view is often criticised for its extensive procedural elaboration (Annells, 1996:120). Mills *et al.* (2006:1) noted that Strauss and Corbin exhibited a discernable thread of constructivism in their approach to the grounded theory inquiry. Although Strauss and Corbin never directly address the philosophical underpinnings of their approach, they clearly opposed the ontological position of the traditional grounded theorists, that truth is discovered from data that represents the 'real' reality (Mills *et al.*, 2006:3). Strauss viewed humans as active participants in the creation of meaning. From his pragmatist philosophical tradition, he believed that humans create subjective and social meaning through the use of language and that meaning emerge from our interaction (Charmaz, 2006:7).

### **2.2.2 Philosophical underpinnings of 'Classical' grounded theory**

Since the initial conception of the grounded theory approach by Glaser and Strauss in 1967, many diverging approaches and positions have been adopted by other researchers, and this has provoked much discussion (Mills *et al.*, 2006:2). Following the 'Classical' or 'Glaserian' grounded theory devised by Glaser and Strauss, and subsequently refined by Glaser (1978) in his work *Theoretical Sensitivity*, many researchers have adopted and adapted grounded theory and its methodology to fit whatever epistemological and ontological underpinnings they ascribe to. Mills *et al.* (2006:2) view these various inflections on the grounded theory approach as a methodological spiral: the adaptations to grounded theory are reflected on the spiral based on the philosophical thoughts that guides the researcher in his/her qualitative inquiry. Figure 2.1 illustrates my visual description of the methodological spiral that present classical grounded theory at the one end, and constructivist grounded theory at the other. The epistemological and ontological underpinnings that define the philosophical differences between the two approaches are located in the middle.

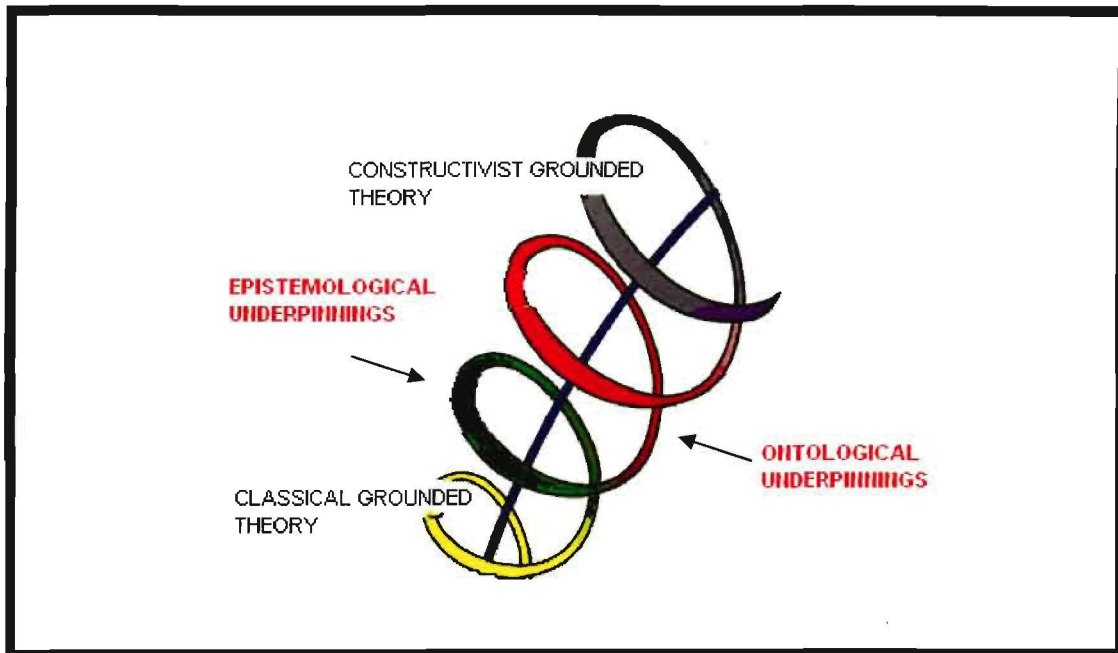


Figure 2.1: The Methodological Spiral of Grounded Theory

Grounded theory research is based on the views of the symbolic interaction theory developed by George Herbert Mead, a social psychologist in 1934. Grounded theory research essentially means that the theory is developed from the data from which it was derived. Grounded theory research provides the researcher the opportunity to study a problem from the perspective of the participants without force-fitting it into an existing framework (Wuest, 2007:239). According to Wuest (2007:241), many researchers have described symbolic interactionism as the basic underpinning of grounded theory. Grounded theory is further informed by two contrasting traditions, stemming from the academic history of the founding fathers, Glaser and Strauss. Glaser's rigorous quantitative training at the Columbia University with Paul Lazarsfeld provides the epistemological assumptions of logic and the systematic approach of grounded theory methods (Charmaz, 2006:7). Strauss exhibits the influence of pragmatism and the Chicago School of Sociology (Wuest, 2007:241). As a pragmatist, Strauss recognised that human beings are active agents in their lives and world (Charmaz, 2006:7).

### 2.3 INTRODUCING CONSTRUCTIVIST GROUNDED THEORY

Grounded theory presents the researcher with an array of approaches to follow, and the researcher must ensure that he/she chooses an approach that fits the research paradigm at hand and that supports the epistemological and ontological views of the research paradigm. Table 2.1 provides a summary of the different approaches in grounded theory research.

Table 2.1: Differentiation between the grounded theory approaches (adapted from Annells, 1996:121; McCann & Clarke, 2003).

	<b>GLASER</b>	<b>STRAUSS &amp; CORBIN</b>	<b>CHARMAZ</b>
<b>CLASSIFICATION</b>	Classical or Glaserian grounded theory	Evolved grounded theory	Constructivist grounded theory
<b>EPISTEMOLOGY</b>	Objectivity	Subjectivist	Subjectivist
<b>ONTOLOGY</b>	Critical Realist	Relativist	Relativist
<b>ROLE OF THE RESEARCHER</b>	Passive observer	Co-constructor	Co-constructor

According to Mills *et al.* (2006:2), the choice of approach depends on two factors, namely: a clarification of the nature of the relationship between the researcher and the participants, and an understanding of what is already known in the field. Within the constructivist paradigm, the researcher strongly opposes the existence of an objective reality, and instead ascribes to the relativist ontological position that the world consists of many realities that are defined in terms of a specific context (Mills *et al.*, 2006:2). In the selection of constructivist grounded theory as a suitable approach for the research being conducted, I was strongly influenced by the epistemological and ontological arguments underpinning the constructivist paradigm.

### 2.4 CONSTRUCTIVIST GROUNDED THEORY: DESIGN AND PROCESS

A discussion of the constructivist grounded theory design and the process as it unfolded in this research study is provided in the paragraphs that follow.

### **2.4.1 The research design**

Burns and Grove (2007: 237; 553) define the research design of a study as the blueprint for conducting the study. This blueprint guides the planning and implementation of a study in such a manner that the intended goal can be achieved. Terre Blanche, Durrheim and Painter (2006:563) agreed with this view in stating that the design is a strategic framework that guides research activities to ensure that sound conclusions are reached. A grounded theory which is constructive, quantitative, qualitative, exploratory, descriptive, and contextual in nature was selected as the research design for this study. A description of each of these concepts as they apply to the research will follow in the next paragraphs.

#### **2.4.1.1 Constructive theory**

The definition of a theory is often guided by the methods that a researcher employs in the development thereof, and reflects the beliefs and values that the researcher holds towards science and knowledge (Chinn & Kramer, 2008:180). In this research study, I applied Strauss and Corbin's (1998:15) definition of a theory, which is "a set of well developed concepts related through statements of relationship, which together constitute an integrated framework that can be used to explain or predict a phenomena [sic]". As such it is important that a theory have purpose and that the purpose is a specific practice oriented application (Dickoff, James & Wiedenbach, 1968:419).

Chinn and Kramer (2008:182, 192) pick up on the rigorous structuring of concepts to provide a purposeful and systematic view of the phenomenon, but further add that developing a theory is also a creative process providing a view that is tentative in nature. Creative here refers to the fact that the process depends to a large extent on the interpretation of the researcher; and tentative implies that the view can change as new insights occur and understanding develops. A theory therefore grounded in the data can provide some degree of prediction, control and understanding of the phenomenon as it occurs in practice.

Glaser and Strauss (1967) described a theory as being either formal or substantive. A formal theory is usually derived from studying a phenomenon under a variety of conditions (Strauss & Corbin, 1998:23) and is raised to a level of abstraction beyond a substantive theory (Brook, 2003:58). This implies that a formal theory is developed from a substantive theory

by theoretically sampling it to a wider range of disciplinary concerns and problems. A substantive theory on the other hand is context-bound and derived from one substantive area (Strauss & Corbin, 1998:23). In this research study, I focus on the phenomenon of a positive practice environment in CCUs in the private hospital sector in Gauteng which can be regarded as aiming to construct a substantive theory in this particular area. Both substantive and formal theories are considered mid-range theories (Glaser, 1967). According to Walker and Avant (2005:4), we distinguish between four levels of theory, the first of these being a *meta-theory*. Meta-theories focus on the philosophical and methodological questions pertaining to the development of a theory base for nursing. The second level is known as *grand theories*, and consists of global conceptual frameworks that provide broad perspectives for nursing practice. *Mid-range theories* are found at the third level and represent less abstract levels of theories that provide some degree of prediction, control and understanding of practice (Brook, 2003:58). These theories aim to fill the gaps that exist between *grand theories* and nursing practice (Walker & Avant, 2005:4). The final level of theory is known as *practice theory* and delineates modalities for practice.

For the purpose of this research, a *mid-range theory* for positive practice environments in CCUs will be constructed. The theory will share some of the conceptual economy of a *grand theory* but with the specificity needed to make it useful for practice (Walker & Avant, 1983:7). Concepts related to the phenomenon under investigation were explored using both quantitative and qualitative methods. The development of the primary concepts resulted from a coding process and memo-writing that directed the analysis, and the comparing and naming of categories. Data was synthesised by linking the categories in order to form a conceptual framework from which the theory was constructed. The process is described in Chapter 6 of this thesis.

#### **2.4.1.2 Quantitative inquiry**

According to Burns and Grove (2007:17), quantitative research represents a formal, objective and systematic process in which the researcher uses numerical data to obtain information about the world. Once the data is collected it is coded into a numerical form to which statistical analysis is applied in order to determine the significance of the data (Terre Blanche *et al.*, 2006: 563). In this research study quantitative data collection techniques was

used to systematically collect numerical data on the current practice environment of the critical care nurse. The data obtained was coded and described using descriptive statistics.

#### **2.4.1.3 Qualitative inquiry**

Qualitative research can be defined as a systematic and subjective approach that is primarily used to describe the life experiences of people and to give them meaning (Burns & Grove, 2007:61). In contrast to the more objective stance of quantitative research, qualitative research seek to preserve the integrity of the narrative data collected by means of interviews (individual or focus groups), observation and correspondence (Terre Blanche *et al.*, 2006: 561; Williams, Klopper, Koen & Coetzee-van Rooy, 2008:29). In light of the nature of the inquiry presented and the limitations of previous research conducted on the phenomenon under study, a grounded theory approach was selected. Burns and Grove (2007:67) maintain that this design yields a theory of high quality that often does not require any additional theory testing to enhance its usefulness.

#### **2.4.1.4 Exploratory**

According to Terre Blanche *et al.* (2006:44), exploratory research is used when investigating relatively unknown areas of research. The researcher usually employs open, flexible and inductive strategies to explore new insights into the phenomenon. In this research study, the concepts were explored through the analysis of data collected from the PES-NWI and intensive interviews. This not only provided me with an emic perspective of the concept positive practice environment, but also with a rich description of the phenomenon under study.

#### **2.4.1.5 Descriptive**

The aim of a descriptive study is to accurately describe the phenomenon being investigated (Terre Blanche *et al.*, 2006:44) in order to discover new facts about it and to provide feedback on its characteristics (Mouton & Marais, 1994: 43). In this study the concept of a positive practice environment with regard to the CCU in the private hospital sector in Gauteng was described using the following:

- Descriptive statistics from, first, the checklist, to illustrate the demographic characteristics of the CCUs (objective 1) and, second, from the PES-NWI, to describe the current practice environments of critical care nurses (objective 2).
- Narrative descriptions of the critical care nurses working in these units. In analysing the verbatim transcripts of intensive interviews, the main concepts of the theory were identified, described and defined, and structured into a grounded theory (objective 3). The descriptive mode provided me with rich detail on the phenomenon of positive practice environments and a clear picture of “what is going on” thus grounding the theory in the data collected (Burns & Grove, 2005:57).

#### **2.4.1.6 Contextual**

Qualitative research is context-bound and critical in understanding the reality of the participants’ experiences (Holloway, 2005:275). Strauss and Corbin (1990:96) defined the context as a specific set of properties that pertain to the phenomenon under study. The context for this research study was CCUs within the private hospital sector in Gauteng. A comprehensive description of the context (demographic characteristics and the current practice environment of the critical care nurse) is discussed at length in Chapter 3.

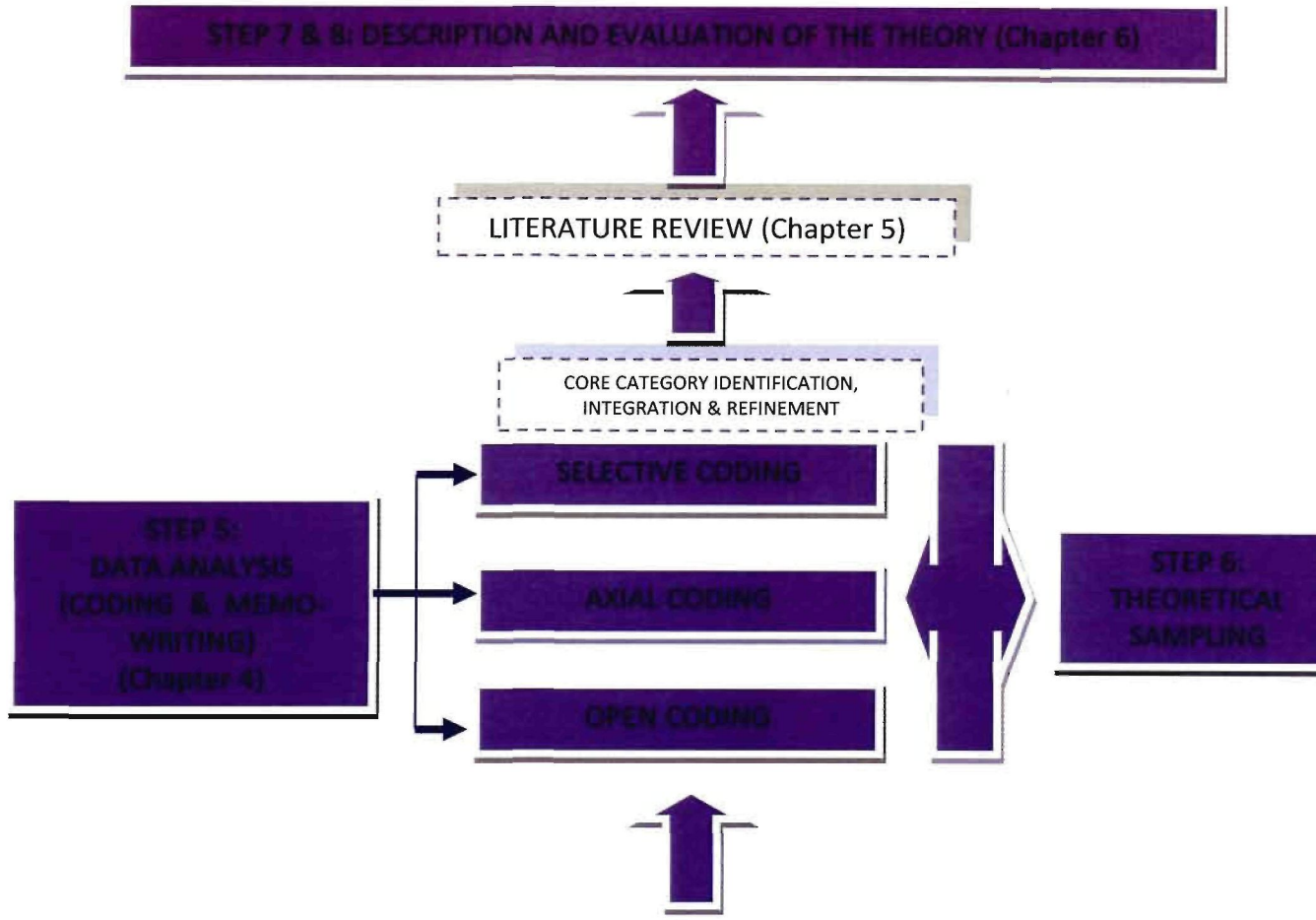
#### **2.4.2 The grounded theory process**

The subjectivist epistemological view of the constructivist grounded theory approach presented in Table 2.1 represents my view that meaning is co-constructed between the researcher and the participants, whilst the relativist ontological position reflects my view that there are multiple realities related to the concepts in this study and that there exists not only one truth. The process of grounded theory research involves a number of steps (representative of the characteristics of a grounded theory) which are presented in a linear form for the sake of clarity. It is, however, important to recognise that the process itself is by no means linear. As described in Chapter 1 (section 1.7), data collection and data analysis is an interwoven process and most of the steps involved in the phases occurred simultaneously as I constantly moved back and forth between data collection and analysis (Strauss & Corbin, 1990:58). According to McCann and Clarke (2003:22), there is a set of common characteristics shared by all approaches in grounded theory, regardless of the epistemological and ontological underpinnings that the researcher ascribes to. Although I

ascribe to the philosophical underpinnings of constructivism, I have selected to follow the coding process described by Strauss and Corbin (1998) in their work on the techniques and procedures for developing grounded theory. The reason for this was because their text provided a comprehensive discussion and guidance in coding, which is especially valuable for the novice grounded theorist.

McCallin (2003:203) suggested that although grounded theory is best learned through an apprenticeship, many researchers do not have access to experienced grounded theorists and, as such, a clear explanation of the methodology can assist researchers “doing” grounded theory. Strauss and Corbin’s (1998) pragmatic approach and recognition of the subjective nature of the relationship between the researcher and the participant, together with their rejection of the ontological position of traditional grounded theory, made the use of their methods and processes during coding appropriate for this study. Furthermore, many of the processes used during coding as described by Strauss and Corbin (1998) are also incorporated in Charmaz’s (2006) discussion, with the exception of axial coding that is discussed under section 2.4.4.2 of this Chapter. In Figure 2.2, I provide a visual overview of the steps followed in the research process. Each of these steps is presented in one of two phases and a scientific discussion on each of these steps follow.

**PHASE TWO**



**PHASE ONE**

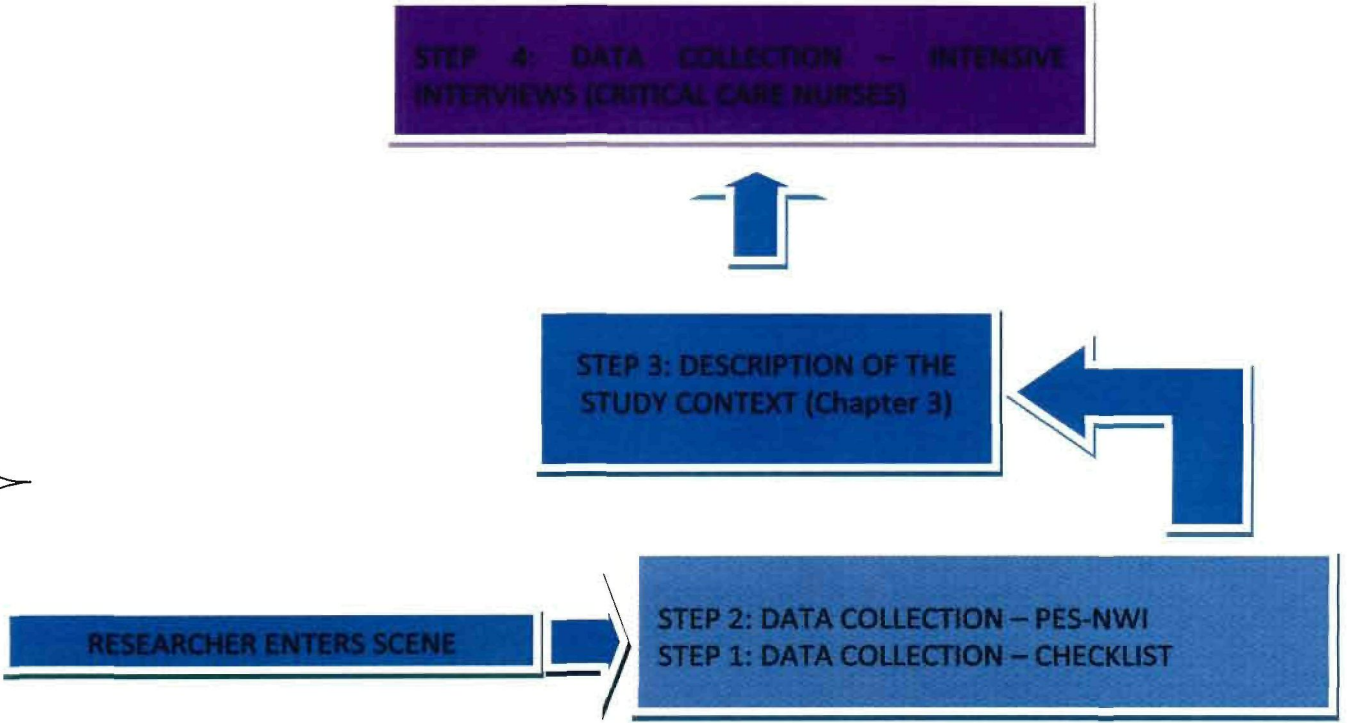


Figure 2.2: The research process followed in the study

### 2.4.3 Phase one

#### RESEARCHER ENTERS SCENE

##### 2.4.3.1 The role of the researcher

As mentioned earlier, the approach followed in grounded theory is determined by two factors, namely the nature of the relationship that exists between the researcher and the participants, and an explanation of what is already known in the field (Mills *et al.*, 2006:2). The research methodology of constructivist grounded theory provides an epistemological and ontological fit with my theoretical position. Within the theoretical underpinnings of the paradigm, I am repositioned as the co-constructor of reality in conjunction with the participants. There is thus a subjective interrelationship between myself and the participant (Mills *et al.*, 2006:2). The epistemological underpinning of objectivity of 'classical' grounded theory is therefore rejected through the intimate familiarity that exists between me and the participants.

With this in mind, I wish to declare the unfolding of my role in this research study on a professional and personal level. My professional interest in the phenomenon under investigation stems from my working in the critical care environment for approximately eight years. During this time, I noticed that although several critical care units were able to recruit nurses, very few were able to retain nurses. In exploring the literature on strategies for effective recruitment and retention and following a discussion with my promoter I decided to explore the concept of a positive practice environment in critical care units. On a personal level, my passion for critical care nursing is deeply rooted in the nobleness of the knowledge, skill, competence and dedication found in the nurses working in these units. I further have a serious concern regarding the strategies currently employed to address the growing shortage of critical care nurses in the private hospital sector in South Africa, as well as the fact that most of these interventions are developed and implemented by managers lacking experience in and knowledge about the critical care environment.

As such, my experience contributed inherent strengths and weaknesses towards the research study. My strengths as a competent clinician provided me with an awareness of

the demands of the practice environment of the critical care nurse. Because I have personally experienced the difficulties with which the participants are currently faced, I have an empathetic connection with them and a greater understanding of areas that were important to explore and clarify. However, one weakness of having this previous personal experience could be the potential bias I brought to the study. I acknowledge that I carried my prior knowledge and ideas into the research, but I agree with Dey (1999:251) that there is a difference between an open mind and an empty head. Some of my own memories were recalled during some of the interviews. Through a phenomenological strategy known as bracketing (Burns & Grove, 2007:532; Wuest, 2007: 219), I chose not to share these with the participants, but rather recorded them as part of my memos, thus “bracketing” my prior knowledge and assumptions about the phenomenon.

In describing the role of the researcher in grounded theory, Glaser and Strauss (1967:46) state that the researcher should also exhibit certain sensitivity towards the data in order to be able to conceptualise and formulate the emergent theory from the data collected. This is known as **theoretical sensitivity**, and implies that the researcher must have theoretical insight into the conceptualisation of the data, and the identification of relationships between the concepts derived from the data (Wuest, 2007:247). Theoretical sensitivity depends on the researcher’s personal capacity to relate knowledge from their own disciplinary theories to the theoretical literature in other fields, in order to expand understanding about what is theoretically possible (Wuest, 2007:247). According to Glaser (1992:27), researchers should read widely outside the substantive area under study in order to increase familiarity with theoretical codes, where theoretical codes refer to “conceptual models of relationships that are discovered to relate the substantive codes to each other theoretically”.

#### **2.4.3.2 Population and sample**

The study population represents the larger pool from which the sample is drawn and to which we would like to generalise our findings (Terre Blanche *et al.*, 2006:133). Participants and settings considered relevant to the study were included in the sample. The participants and settings that were selected provided the greatest opportunity for gathering the most applicable data about the phenomenon under study.

The population for this research study included:

- Adult CCUs of any discipline (e.g. medical, surgical, trauma and multi) within the private hospital sector with more than 100 beds in Gauteng; and
- Registered nurses working in the CCUs of the private hospital sector in Gauteng, trained as critical care nurses, or with experience in critical care nursing. The nurses further had to be proficient in either Afrikaans or English.

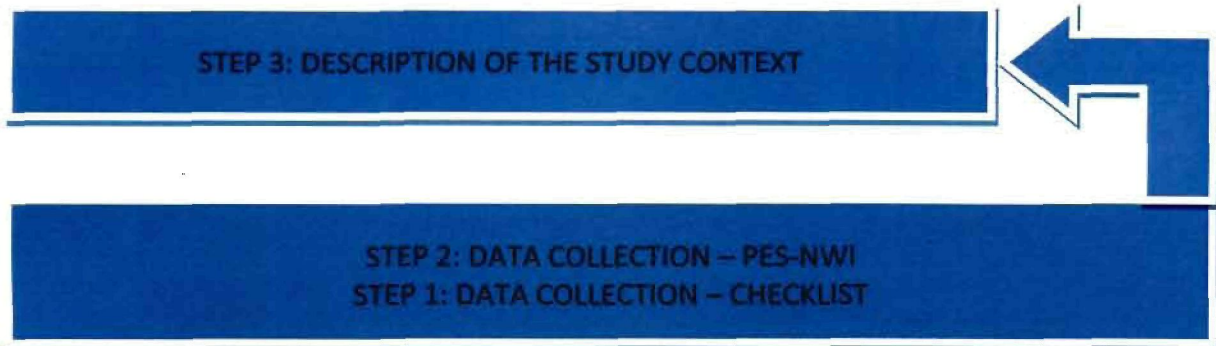
De Vos *et al.* (2005:194) define a sample as the elements of a population that are considered for inclusion in a research study. The sample is studied in an attempt to understand the population from which it was drawn. It is thus a small representative portion of the population that comprises the study. Different types of sampling methods were employed in this study. In grounded theory, participants are included in a sample based on the expert knowledge they possess on the phenomenon under study, and not necessarily on the basis of their representativeness. This is known as theoretical sampling and is discussed at length in section 2.4.4.3 (Brook, 2003:45).

Sampling in this research study occurred as follows:

- An all-inclusive sample (N=42) of critical care units in private hospital settings in Gauteng was obtained. Of these 42 units, a total of 31 completed the checklist (n=31).
- Sampling of the critical care nurses occurred in two stages. In stage 1, an all-inclusive sample of 741 critical care nurses (N=741) was invited to participate in the study. A total of 298 nurses (n=298) completed the questionnaire, resulting in a response rate of 40%. In stage 2, critical care nurses were selected by means of purposive sampling. According to de Vos *et al.* (2005:328), purposive sampling means that a particular case that exhibits features that are of interest to the research study can be purposefully chosen. Nurses working in the selected critical care units were invited in writing to participate in an individual interview, of which 42 nurses indicated their willingness and availability to participate. A total of 6 nurses (n=6) were asked to participate in this segment of the study. I employed theoretical sampling throughout the data analysis process to address the voids that occurred, and to ensure that the data collected contributed to the

construction of the theory (de Vos *et al.*, 2005:328). The process was repeated until theoretical saturation occurred.

#### 2.4.3.3 Data collection steps to describe the context



During the initial data collection period, steps 1 and 2 aimed to describe the context (step 3) in which the research was conducted. In constructivist grounded theory, the analysis of the data is contextually situated in a time, place, culture and situation (Charmaz, 2006:130), and to that end I had to collect information on the demographic profile of critical care units in the private hospital setting in Gauteng. The data collected from these steps provided information on the context in which the participants operate, that is, the critical care environment within the private hospital setting, and they also revealed concepts relevant to the phenomenon under investigation.

For **step 1**, I developed a checklist that collected data on seven variables in each of the selected units, namely: (1) the type of unit (medical, surgical, trauma, multi-disciplinary or other); (2) the number of beds in the unit; (3) the bed turnover rate of the unit; (4) the average patient acuity of the unit; (5) the skill mix in the unit in terms of trained critical care nurses – in other words, nurses registered with the SANC that had an additional qualification in clinical nursing or critical care nurses with experience in the critical care environment; (6) the staff turnover rate; and (7) the staff absenteeism profile. The checklist was developed after consulting the literature and with the assistance of a statistician. The demographic data collected from the checklist were used to contextually ground the collected data. Terre Blanche *et al.* (2006:352-353) noted that theories are not waiting to be discovered, but rather constructed through dialogue. This approach is in line with the emic perspective where meaning is derived from understanding a phenomenon from the

context of the participants themselves, resulting in contextually-derived meaning (Terre Blanche *et al.*, 2006:353). The demographic characteristics of the units that participated in the study are described in Chapter 3.

In **step 2** of phase 1, the current practice environment of the critical care nurse in the private hospital sector was described using a valid and reliable instrument, developed by Lake, called the Practice Environment Scale of the Nursing Work Index (PES-NWI) (Lake, 2002). As mentioned in Chapter 1, the PES-NWI was administered as part of a core battery of instruments used in the Registered Nurse Forecast (RN4CAST) research programme aimed at developing human resource forecasting models in Nursing. The PES-NWI was derived from the Nursing Work Index (NWI), a nurse survey that measures the organisational characteristics of hospitals that seem to attract and retain nurses amidst nurse shortages.

For the RN4CAST study, a battery of instruments was administered in 42 critical care units and adult medical and surgical wards across two private hospital groups in South Africa. The results of the PES-NWI in the research study were extrapolated from the RN4CAST data completed by critical care nurses. Step 3 of the first phase, describing the study context, was based on the findings of the checklist and the PES-NWI which are presented in Chapter 3. The checklist is attached as Annexure C and the PES-NWI scale is attached as Annexure D.

#### **2.4.4 Phase two**

##### **STEP 4: DATA COLLECTION – INTENSIVE INTERVIEWS (CRITICAL CARE NURSES)**

#### **2.4.4.1 Data collection to determine theory components**

As stated in Chapter 1 (refer to section 1.5.3), pragmatic plurality allowed me the opportunity to employ both qualitative (intensive interviews) and quantitative (checklist and PES-NWI) methods in collecting data to answer the research questions. Following the description of the context of the study, using quantitative data collection techniques, I had to decide on data collection techniques (step 4) that focused on gathering rich data to

construct the theory. According to Charmaz (2006:13-14), the researcher's challenge begins with finding data that are rich, detailed and full, and that get beneath the social and subjective life of the participants. Qualitative data collection techniques allowed me the opportunity to follow up on concepts that emerged from the descriptive data (Charmaz, 2006:15) and permitted a degree of flexibility within the data collection phase of the research process. It appears that the most common data collection techniques in grounded theory studies include interviewing and participant observation (Brook, 2003:64). In exploring and describing the perceptions of critical care nurses of the concept of a positive practice environment, I decided to utilise intensive interviewing as a data collection technique. The use of interviews as a data collection technique in qualitative research is well described in the literature. Kvale and Brinkmann (2009:3) argue that an interview depicts a conversation that has a specific structure and focus. The intensive interview as described by Charmaz (2006:25) provides the researcher the opportunity to do an in-depth exploration of a particular topic or experience.

During the process of data collection, the researcher must fully engage with the data both in the collection and analysis thereof. Kvale (1996: xvii) supports the subjectivist view in stating that "interviews are conversations where the outcome is a co-production of the interviewer and the subject". Employing research assistants to conduct interviews can complicate the matrix operation of grounded theory if the assistant collecting the data is unfamiliar with the evolving analysis (Wuest, 2007:250). The in-depth approach of intensive interviewing to collect data that is rich and full in detail requires a direct involvement of the researcher during the data collection phase. The direct involvement of the researcher in the process of data collection and analysis provides the researcher with more analytical control over the process (Charmaz, 2006:28).

Intensive interviewing within the constructivist approach allows the researcher to study the subjective world of the participant through a flexible and emergent technique, to understand the world from the participants' points of view and to uncover their lived worlds prior to scientific explanations (Kvale & Brinkmann, 2009:1). This technique also provides the researcher with the opportunity to identify preconceived notions about the phenomenon under study, correct the tendency and return to the field to gather focused

data to answer the analytical question and co-construct new meaning with the participant (Charmaz, 2006:29).

Within grounded theory, intensive interviewing is used to narrow the range of interview topics and to collect specific data for developing a conceptual framework (Charmaz, 2006:29). Conducting an intensive interview for a grounded theory study requires careful planning from the researcher. Questions must be formulated to explore the phenomenon under study, from the viewpoint of the participant, and must reflect a symbolic interactionist emphasis on learning about the participants' experience (Charmaz, 2006:29). The researcher conducting the interview must focus on listening, observing, and encouraging the participant to reflect on the phenomenon under study. Sometimes the first question may suffice as an introduction to the whole interview. According to Charmaz (2006:26), the structure of the intensive interview may range from loosely guided explorations of the phenomenon to semi-structured focused questions. When formulating questions to guide the interview, the researcher must consider questions that will explore the phenomenon under study and fit the participants' experience. The questions must be general to cover a wide range of experiences and yet narrow enough to elicit and elaborate on the specific experiences of the participants (Charmaz, 2006:29).

Within the context of this research study, I structured a few open-ended questions - guided by the objectives - to provide me with a point of departure and to guide the exploration of the phenomenon under investigation. The questions were structured to explore the participants' general perceptions of positive practice environments. Questions became more specific as the interview progressed to clarify concepts that emerged and to incrementally build on the categories derived. As part of the predetermined questions I also included a list of items such as background information on the study, informed consent and the interview procedure, which I addressed before the interview. The questions and items are illustrated in the interview guide attached as Annexure E.

#### 2.4.4.2 Coding and memo-writing

### STEP 5: DATA ANALYSIS: CODING & MEMORING

Coding represents the first analytical step in the grounded theory process. During this process the researcher defines the data by breaking it into smaller segments (Charmaz, 2006:43). These segments of data are then labelled or named based on the researchers' analytical interpretation of the data. The researcher inductively constructs codes during the analysis of the data, thus representing the researchers' subjective view of what is significant in the data (Wuest, 2007:252). Eventually these codes are then grouped into more abstract categories that provide the researcher with an analytical frame from which the theory is constructed (Charmaz, 2006:45). During the analysis of the data the researcher might come across voids in the data, or even interesting concepts that require further investigation. Through coding the researcher can direct subsequent data collection to ensure the adequate exploration of these voids or concepts.

Strauss and Corbin (1998:57) refer to the process of data analysis in grounded theory as a microscopic examination of the data, whereby the researcher conducts a detailed line-by-line analysis to generate the initial categories and potential relationships between these categories. During the initial coding of the data the researcher analytically compares data with data, and it is within this process that the researcher is advised to enter the scene with no preconceived ideas. The researcher needs to be as open as possible to exploring whatever theoretical possibilities may exist.

Within the context of my relativist ontological view to the existence of multiple realities in a theoretical sense, I recognise that the researcher can never enter a scene free from prior ideas and understandings. It is within this statement that I agree with Charmaz (2006:48) that the researcher must acknowledge his/her preconceptions, but at the same time acknowledge the participants' theoretical understanding to 'discover' new truths about the phenomenon under investigation, and construct a theory that is grounded in the data. In grounded theory, preconceived concepts will not contribute to the legitimacy of the

researcher's qualitative findings (Charmaz, 2006:48), but rather sensitise the researcher to the properties of the data (Strauss & Corbin, 1998:55).

The initial coding practices require the researcher to begin the analysis from the perspectives of the participants using their words and actions (Charmaz, 2006:49). The researcher is advised against the use of alien professional language to describe the phenomenon as the use of the participants' language will preserve the fluidity of their experiences (Charmaz, 2006:49). The codes must reflect the emic perspective that the researcher has and fit the data that it is describing. Strauss and Corbin (1998:58) also recognise the fact that the emergent theory is a product of both the researcher and the participant, in stating that the data represents: (i) the participants' recollections of events or actions, and (ii) the researchers' interpretation of those events and actions. The first step in the analysis of the data which also implies the first analytical turn in the data is known as coding (Charmaz, 2006:42). In the paragraphs to follow, I will present a concise overview of the steps taken during the coding of the data in this study, i.e. open coding, axial coding and selective coding.

### OPEN CODING: GENERATING CATEGORIES

Aptly referred to as open coding, this first analytical step literally involves uncovering, naming and developing concepts by opening up the data to reveal the meaning contained therein (Strauss & Corbin, 1998:102). The raw data, that is, the interview transcripts, are fractured in a line-by-line fashion into analytical pieces or concepts. This enables the researcher to "[focus] on each data bit, asking what it is an indicator of, and assigning [it] a code or label" (Wuest, 2007:253). Authors tend to use different terms when referring to the same idea. In this case, Strauss and Corbin (1998) seem to prefer the term "concepts", while others such as Wuest (2007) use the term "codes" when referring to the names or labels assigned to data bits. In this research study, I use these terms interchangeably when describing the naming of segments of the data.

According to Charmaz (2006:49), the initial coding process differentiates between three techniques namely: word-by-word coding; line-by-line coding; and incident-by-incident coding. The type of data to be analysed often plays a role in the selection of one of these three techniques. Line-by-line coding is guided by the type of data, level of abstraction, stage of the research process and the purpose for collecting the data (Charmaz, 2006:50) and is often the preferred technique for most grounded theorists. Glaser (1992) criticised this type of coding, stating that it can lead to the overconceptualisation and the generation of too many categories. In response to the argument put forward by Glaser, Charmaz (2006:50) explains that with line-by-line coding, the researcher can select the most telling codes of an incident and then compare these incidents. This type of coding helps the researcher to refine the data and guides subsequent collection with leads to pursue. Although line-by-line coding is very time-consuming, it is often the most generative and enabling, allowing the researcher to generate categories quickly and to develop those categories further through a process known as theoretical sampling (refer to section 2.4.4.3). Line-by-line coding was selected for this research study because it works particularly well with interviews which provide detailed data of the empirical problem (Charmaz, 2006:50).

The aim of line-by-line coding is to develop theoretical categories from where the analysis can be built step-by-step from the ground up (Charmaz, 2006:51). The first step in building the analysis, which in turn leads to the development of a theory, involves a process known as conceptualising. Conceptualising refers to the process of labelling or naming phenomena, where phenomena represent concepts and important analytical ideas that emerge from the data (Strauss & Corbin, 1998:114). As soon as the identified concepts start to accumulate, the researcher can begin the process of grouping these concepts under more abstract and explanatory terms known as categories (Strauss & Corbin, 1998:114). Categories, in turn, reflect the concepts or codes derived from the data. The names assigned to categories are derived in one of two ways: (i) the researcher names the codes based on the meaning they evoke, or (ii) they are named using the words of the participants. The latter are referred to as *in vivo* codes. These terms portray the participants' subjective understanding and are often used in qualitative coding. It is important to note that *in vivo* codes cannot stand alone in grounded theory, they must be

integrated (Charmaz, 2006:55). It is therefore important that the researcher unpacks these terms with the participants, to make sure that there is agreement on the implicit meaning of each term. Once the meaning is established the researcher can use the *in vivo* code to anchor the data analysis in the participants' world (Charmaz, 2006:55). Wuest (2007:254) supports the use of *in vivo* codes during open coding, saying that *in vivo* codes often provide the best description of what is happening in the data.

In grounded theory, constant comparative methods remain a key element of the analysis. With constant comparison, the researcher continually compares the similarities and differences between segments of the data in order to determine the theoretical properties of the codes (Wuest, 2007:247; Strauss & Corbin, 1998:107). This aids the researcher in developing a full range of the properties of the codes so that the code will fit the data and the emerging theory will be grounded in the data (Wuest, 2007:247). Using the categories to sift through the different sets of data (that is, different interview transcripts), the researcher is able to synthesise and explain larger segments of the data. Categories therefore reduce the amount of data that the researcher has to work with and subsequently assist the researcher in developing the properties and dimensions of each category. The properties of a category refer to the general or specific attributes of the category, while the dimensions represent the location of a category along a range (Strauss & Corbin, 1998:117).

Charmaz (2006:60) refers to this process as focussed coding, stating that focused coding requires the researcher to identify the initial codes that makes the most analytical sense. These codes are used to sift through the data. The data collected is then compared to the codes in order to refine them (Charmaz, 2006:60). This constant back and forth comparison between the data and the codes, during which the codes become more refined according to the data, allows the researcher to develop the focused code.

Vigilant coding during the initial phase of data analysis will ensure that the researcher fulfils two criteria for completing a grounded theory: fit and relevance (Charmaz, 2006:54). When the constructed codes and categories truly fit the experiences of the participants, the study is said to fit the empirical world of the participants. The study is relevant when the researcher is able to look at familiar data in a new manner and offer an analytical

framework that portrays what is happening in the world of the participants (Charmaz, 2006:55).

### AXIAL CODING: SYSTEMATIC DEVELOPMENT OF CATEGORIES AND LINKAGE WITH SUBCATEGORIES

Axial coding is the next step in the grounded theory coding process and involves coding around the “axis” of a category (Strauss & Corbin, 1998:123). Charmaz (2006:60) explains that axial coding “relates categories to subcategories, specifies the properties and dimensions of a category, and reassembles the data you fractured during the initial coding to give coherence to the emerging analysis”. A category represents a phenomenon that reflects a problem or issue defined as significant by the participants. A subcategory, on the other hand, answers questions about the phenomenon such as when, where, why, how and with what consequences, in order to give the concept greater explanatory power (Strauss & Corbin, 1998:124). Axial coding thus represents a strategy to bring the data back together and aims to link categories with subcategories in order to provide more precise and complete explanations about the phenomenon under investigation (Strauss & Corbin, 1998:124).

Strauss and Corbin (1998:127) state that when we “code axially, [we] look for answers to questions such as why or how come, where, when, how and with what results, and in doing so [we] uncover relationships among categories”. In answering these questions we are able to contextualise the categories and explain the circumstances in which the phenomenon occurs as well as the participants’ response to the occurrence. The process of developing categories and subcategories continues until a category is considered to be saturated. This occurs when no more new information (i.e. properties, dimensions, conditions, actions or interactions or consequences) surface from the data during the coding thereof (Strauss and Corbin, 1998:136) or when the collection of additional data seems counterproductive.

Again, it is important to note that the steps presented here are not sequential acts and although axial coding requires the researcher to have some categories, ideas about how the

categories can relate to each other often emerge earlier in the analysis, sometimes during open coding (Strauss & Corbin, 1998:124).

Strauss identified the following basic tasks as part of the axial coding process (Strauss, 1987; Strauss & Corbin, 1998:126):

- Laying out the properties and dimensions of a category, a task that often starts during open coding.
- Identification of the conditions, actions or interactions, and consequences associated with the phenomenon.
- Relating the categories and subcategories by means of statements denoting their relationship with each other; and
- Looking for cues in the data that indicate how categories might relate to each other.

Distinguishing between categories and subcategories often occurs during the coding process and it is important to note that the relation of categories to subcategories must occur at a conceptual, rather than descriptive level (Strauss & Corbin, 1998:125). During the analysis of the first interviews, the researcher often starts to notice how certain concepts relate to each other. *These initial instincts about the relations are termed hypotheses and explain the what, where, why and how of a phenomenon (Strauss & Corbin, 1998:135).* These hypotheses, or relational statements, are abstracted from the data on a conceptual rather than descriptive level (by the researcher) and must be validated through the constant comparison of the data with the data (Strauss & Corbin, 1998:135).

During the analysis of the data in axial coding there is a continued interplay between induction and deduction (Strauss & Corbin, 1998:136). The constant comparative analysis of the data allows the researcher to identify distinctive categories from the data collected. This inductive process allows common themes to emerge from the data (Torres & Boshier, 2009:10). Wuest (2007:240) concluded that doing grounded theory is therefore a process of “inductively deriving codes, developing hunches about properties and relationships, checking out those hunches deductively in old and new data by theoretical sampling, and developing yet another inductive theoretical hunch”. Strauss & Corbin (1998: 136-137)

explain the process of deduction as an occurrence of the interpretation of the researcher. When the researcher conceptualises the data in order to identify the relationships between concepts derived from the data, the researcher is interpreting the data to some degree, thereby deducing what is going on in the data based on his/her interpretation thereof.

To conclude the discussion on axial coding, I briefly present Charmaz's (2006) views on axial coding and my decision on the inclusion thereof in this research study. Although Charmaz does not formally apply the procedures of axial coding in her research, she does develop subcategories from a category and link them as she learns about the experiences they present. Her argument against the use of axial coding stems from her belief that axial coding can present the researcher with a preset frame. This frame can limit the researcher's vision of what can be learned about the world under study and restrict the codes constructed. On the other end she acknowledges the fact that axial coding provides a frame for researchers to apply and researchers preferring to work with a preset structure will probably welcome that frame (Charmaz, 2006:61). As a novice grounded theorist I welcomed the structure provided by axial coding and disagree with Charmaz that axial coding restricts the codes constructed. In my opinion axial coding not only contributed to the depth and structure of my categories, but also to the development and relation of the categories during the process.

### SELECTIVE CODING: CORE CATEGORY IDENTIFICATION, INTEGRATION AND REFINEMENT

Strauss and Corbin (1998: 144) refer to selective coding as the process whereby data becomes theory. Selective coding represents the process of integrating and refining the categories generated, developed and linked during the open- and axial coding of the data (Strauss & Corbin, 1998:143). During this process the major categories are finally integrated and linked into a conceptual framework that will represent the theory grounded in the data. As with all the phases of the data analysis process, the integration of the categories results from the continued interaction between the researcher and the data. This process starts with the first bit of analysis and concludes with the final writing of the theory (Strauss & Corbin, 1998:144).

Methodological strategies such as **sorting**, **diagramming** and **integration** are often used by qualitative researchers during their analysis of data. In grounded theory, however, the strategies are used for the theoretical development of the analysis (Charmaz, 2006:115). Sorting, diagramming and integration are inter-related strategies that help the researcher to organise the analysis in such a way as to create and refine the theoretical links between the categories. These strategies are interwoven in the grounded theory process, but are discussed individually to provide some clarity of their usage.

Once the researcher has developed and named categories, the process of **theoretical sorting** begins. Sorting serves the emergent theory (Charmaz, 2006:116) in that the researcher works on the theoretical integration of the categories. Sorting prompts the comparison of the categories at an abstract level (Charmaz, 2006: 115). Although sorting, comparing and integrating the categories might seem a simple task, the researcher is confronted with the complex task of creating order and making connections between categories. To that end Charmaz (2006:117) recommends that the researcher:

- Sort memos by the title of each category.
- Compare categories.
- Use the categories carefully.
- Consider how their order reflects the studied experience.
- Consider how the order fits the logic of the categories; and
- Create the best possible balance between the studied experience, categories and theoretical statements.

Sorting helps the researcher to clarify the relationship between categories and prompts the researcher to areas where he/she may go astray (Charmaz, 2006:117). It is with sorting that the fractured data are put back into a theory that is truly grounded in the data (Brook, 2003:48). Sorting and diagramming provide the initial analytical frame for the theory (Charmaz, 2006:121), by organising the memos in such a manner that will allow **integration** of the content. Integration makes the relationships between categories intelligible (Charmaz, 2006:120) and helps the researcher to gain an interpretive understanding that is based on the contextual conditions.

The first step in the **integration** process is to identify a core category, or the category that represents the main theme of the research, in this case positive practice environments. The core category according to Strauss and Corbin (1998:146) consists of products from the analysis. These products are then packed together in the core category to explain “what the research is all about”, providing the core category with analytical power. A core category can emerge in one of two ways, either from an existing list of categories, or the researcher can develop a new conceptual idea under which all the existing categories are listed. Several analytical techniques are described to aid the researcher in identifying the core category. These techniques include writing the storyline, making use of diagrams, and reviewing and sorting of memos (Strauss & Corbin, 1998:148). A short overview of each of these techniques is presented in the paragraphs that follow.

In **writing** a few descriptive sentences of what the research is all about, the researcher can articulate his/her thoughts about what seems to be happening in the data. Rereading interviews not for detail but for a general sense of what is happening can stimulate the researchers’ thinking (Strauss & Corbin, 1998:148). Once the researcher has a grasp on the fundamental nature of the research, a name can be applied to this central idea or core category, in order to relate other concepts to it. It is important to note that the core category that emerges from the data must fit the data and offer an interpretation of what is going on in the data (Strauss & Corbin, 1998:152).

Researchers that are more visual in nature might find the use of **diagrams** useful for sorting out the relationships between categories. Strauss and Corbin (1998:217) define diagrams as visual devices that depict the relationships among concepts. Diagrams evolve over time: they grow in complexity, density, clarity and accuracy as the research progress (Strauss & Corbin, 1998:218). A diagram forces the researcher to work with concepts rather than the detail of the data, thus enabling the researcher to gain some distance from the data (Strauss & Corbin, 1998:153). Several different types of diagramming exist in grounded theory. Earlier grounded theory work reflects the emphasis placed on basic social processes, whereas the work of Clarke (2003) proposes conceptual maps to create sophisticated situation analyses. Through mapping the social world and discourses of participants, the researcher is able to preserve empirical realities and complexities without resorting to the

traditional method of relying on basic social processes, as proposed by Glaser (1992). Strauss and Corbin (1998:153) emphasise the fact that diagrams should flow and not be difficult to “read”. This implies that a diagram should be simple with only a few words, lines and arrows. The detail should be contained in writing. Several attempts might be needed before a diagram “feels right” (Strauss & Corbin, 1998:153). Diagrams applicable to the integration of concepts in this research study are presented in Chapter 6.

**Memo-writing** is a critical component of grounded theory and entails the researcher writing down his/her own ideas whilst constantly comparing, coding and analysing the data (Brook, 2003:47). A memo contains the products of analysis and are meant to be analytical and conceptual, rather than descriptive (Strauss & Corbin, 1998:217). According to Brook (2003:47), memos can vary from a few words to several pages in length and they are often written without regard for punctuation or spelling. Memo-writing should be spontaneous and not mechanical. Memos are for personal use and should serve their analytical purpose by being informal and unofficial (Charmaz, 2006:80).

Charmaz (2006:72) noted that the continuous and successive writing of memos during the research process ensures the researcher’s involvement and helps to increase the level of abstraction of ideas. Memos provide the space to actively engage with the material, develop ideas and direct subsequent data collection. The researcher must use memos to help him/her think about the data in order to discover new ideas. With memoing, the researcher creates the space for making comparisons between data and data, data and codes, codes of data and other codes, codes and category, and category and concept. The researcher can then articulate his/her assumptions about the comparisons (Charmaz, 2006:73).

Memo-writing occurs throughout the entire research process, with the content changing as the research progresses. Initially, memos tend to focus on identifying the properties of a category discovered during the analysis and to record decisions about theoretical sampling (Brook, 2003:48). The memos that follow later tend to be more abstract and integrated. *There is no one method for memo-writing and the researcher must use whatever works for*

him/her. As memos vary considerably, researchers can use them to do any of the following (Charmaz, 2006:82):

- Define each code or category by its analytical properties.
- Spell out and detail processes subsumed by the codes or categories.
- Make comparisons between the data and data, data and codes, codes and codes, codes and categories, categories and categories.
- Bring raw data into the memo.
- Provide sufficient empirical evidence to support his/her definitions of the category and analytic claims to it.
- Offer conjecture to check the field setting.
- Identify gaps in the analysis; and/or
- Interrogate a code or category by asking questions about it.

Once the overarching conceptual framework for the theory is identified, the researcher can move on to refine the framework. This involves the process of reviewing the framework for internal consistency and identifying gaps or poorly developed categories (Strauss & Corbin, 1998:156). The conceptual framework should exhibit consistency and flow in a logical manner. According to Strauss and Corbin (1998:157), the researcher can verify consistency and logic by asking what the properties of the core category are and then see how much of it has been built into the framework. Poorly developed categories are usually identified once the researcher starts to draw diagrams and sort his/her memos. The researcher can rectify these by going back to the raw data and examining it again for data that might have been overlooked, or by going back to the field to selectively gather data to fill in these gaps (Strauss & Corbin, 1998:158). The latter is referred to as theoretical sampling (discussed in the following section). This process continues until theoretical saturation of the categories is reached.

#### 2.4.4.3 Theoretical sampling

### STEP 6: THEORETICAL SAMPLING

Theoretical sampling is a central tenet of the grounded theory method. As the theory emerges, specific data that will address the researcher's theory-construction needs is collected (Terre Blanche *et al.*, 2006:290). Theoretical sampling is often mistaken for selective sampling. According to Glaser (1978:290), selective sampling entails a "calculated decision to sample a specific locale according to a preconceived but reasonable initial set of dimensions which are worked out in advance for a study." Glaser argues that with theoretical sampling, the researcher cannot know in advance what to sample for and where it will lead (Coyne, 1997:624). With a specific focus on theory generation, theoretical sampling in grounded theory aims to construct the theory through constant comparative analysis of the data gained via theoretical sampling (Coyne, 1997:625).

Glaser (1978) noted that the use of purposive sampling during the initial stages of grounded theory was one way in which the researcher could include participants thought to be most knowledgeable about the phenomenon under study (Coyne, 1997:625). Charmaz (2006:100) concluded that the initial sampling, in this research study purposive sampling, is where the researcher starts, whilst theoretical sampling directs the researcher where to go. According to Coyne (1997:625), this implies that the researcher begins the study with a sample where the phenomenon occurs, and then proceeds with data collection as guided by theoretical sampling. As the data is collected and analysed, the researcher identifies categories that constitute the theory. These categories are refined and described through theoretical sampling, meaning that the researcher develops the properties of the category with very specific data until no new properties emerge (Charmaz, 2006:96). Several different sampling techniques are described when studying qualitative research methods. In this study I employed both purposive and theoretical sampling in the qualitative segment of the study (refer to Chapter 4).

#### 2.4.4.4 Description and evaluation of the theory

### STEP 7 & 8: DESCRIPTION AND EVALUATION OF A GROUNDED THEORY

In constructing the theory the researcher is required to write theoretically. Glaser (1978) concludes that grounded theory provides more than mere descriptive statements about people, but rather it is a conceptually derived statement about the relationships between concepts. Exploring the concepts and the subsequent defining of the categories provides the operational meanings of the concept, and this must be based on the data and not derived from a dictionary, disciplinary usage or extant theory (Wuest, 2007:259). The theoretical frame that develops from the analysis is then used to write a detailed discussion of the theory (step 7 of the process). As stated earlier, data analysis and the writing of the theory is an interwoven process, where the researcher constantly consults the data to confirm and refine the theory through further constant comparison and theoretical sampling (Wuest, 2007:260). Another aspect of writing the theory is to take previous literature into account. A second literature review was conducted to provide support data for the theory. A discussion of how the literature supported the emerging theory is discussed in Chapter 5. The theoretical portrait of this theory and its contribution to the discipline of nursing is discussed in Chapter 6.

The strength of any grounded theory lies in how well the theory can be applied to practice as a lens that can interpret the participants' experience (Wuest, 2007:262). In the evaluation of a grounded theory, Glaser's (1992) suggested criteria for fit, work, relevance and modifiability are used to determine the usefulness of the constructed theory (Charmaz, 2006:182). In addition to these criteria, Charmaz (2006:182-183) added credibility, originality, resonance and usefulness in evaluating a grounded theory for its contribution to the phenomenon under study. In addressing the final step (step 8) in the process presented in Figure 2.2, I decided to use the criteria of credibility, auditability and fittingness described by Chiovitti and Piran (2003) to illustrate the acceptability of the data and how the constructed theory renders the data (Charmaz, 2006:182). The authors present eight methods to ensure scientific validity of the findings. A comprehensive discussion on each of these criteria and methods is provided in Chapter 6. As a further measure to enhance the

rigour of the qualitative findings, I employed the universal strategies of trustworthiness during the research process. The strategies for credibility, transferability, dependability and confirmability suggested by Lincoln and Guba (1985) are discussed in Chapter 4.

## 2.5 ETHICAL CONSIDERATIONS

In light of the subjective nature of the research study and the direct involvement of the researcher with human participants, the activity of the researcher as the “main” tool in the research process must be acknowledged (Munhall, 2007:501). As mentioned earlier, I ascribe to the subjective epistemological stance in constructivist grounded theory and therefore reject total objectivity and the detachment of conventions on the researchers’ part. To that end I wish to acknowledge my beliefs and values and their implications for the ethical considerations regarding qualitative research in this thesis. These beliefs and values stem from assumptions described by Munhall (2007:502):

- As nurses we are interested in problem-solving research and our motives are to produce a product that is considered “good” to others. In this study the imperative of nursing was regarded as equally important to the research imperative (advancing knowledge).
- Within the deontological ethical system of nursing, I acknowledge that by giving consent the participant agrees to be part of the research, but in the capacity of a participant. Within this capacity the participant must be treated as a person and not a means to an end.
- I recognise that qualitative research is not a static process, but rather dynamic and ever-evolving. To that end informed consent is static and past tense, implying that any unforeseeable changes during the research process necessitate the renegotiation of consent. In this study the research process did not undergo any changes that required the renegotiation of consent and as such I chose to use the term informed consent in this study as it is widely recognised and used.

The inquiry was also guided by the fundamental ethical principles of respect, beneficence and justice (Brink *et al.*, 2006:31-32). As described in section 1.9 of Chapter 1, in ascribing to the principle of respect for persons, I recognised the autonomy of the participants in

informing them about the study, allowing them the opportunity to choose whether or not to participate, and to withdraw from the study at any time without penalty (Burns & Grove, 2007:204). None of the participants were coerced into participation. The principle of beneficence granted participants the right to protection from any discomfort or harm during the study. Counselling and debriefing was provided for in recognition of the exploratory risks involved in a qualitative inquiry, but none of the participants required any intervention. All the participants were treated fairly in accordance with the principle of justice. The data collected (from both the instruments and the intensive interviews), were processed anonymously, meaning that none of the responses could be traced back to an institution or any participant. The information collected was managed confidentially by means of a coding system and was not shared with any other parties not involved in the research study. In addition, the findings of the study will be reported in such a manner that none of the institutions, nor the participants' identities, will be revealed. In Table 2.2, I provide an overview of the ethical considerations and actions undertaken during the study.

Table 2.2: Ethical considerations and actions

CONSIDERATIONS	ACTION
<b>ETHICS CLEARANCE</b>	<ul style="list-style-type: none"> <li>• A preliminary literature review was conducted to determine the need for the study.</li> <li>• A research proposal was submitted to all the relevant stakeholders for ethical clearance (Ethical clearance number: NWU-0015-08-S1) (included as Annexure A).</li> <li>• The research proposal was submitted to the Ethics Review Board of the three major private hospital groups in South Africa. Ethical clearance was obtained from two of the groups (included as Annexure B).</li> <li>• All the collected data were stripped (where applicable) of any participant identifiers. Where necessary I assigned an anonymous code to data.</li> <li>• I ascribed to the principles of confidentiality for all the institution-specific data. The data will never be released to any other entity in an identifiable manner.</li> </ul>
<b>RECRUITMENT OF PARTICIPANTS</b>	<ul style="list-style-type: none"> <li>• An appointment was arranged with the Nursing Service Manager of each of the hospitals.</li> <li>• A package guideline was compiled for the fieldworkers that distributed and collected the PES-NWI to/from the critical care nurses. In this package I provided information on the project, as well as on the informed consent process (included as Annexure F).</li> <li>• Nurses were selected by means of an all-inclusive sample and a unique number were assigned to each of the questionnaires.</li> <li>• Nurses were invited to complete the questionnaire and return it to the appointed fieldworker.</li> <li>• The willing participants had access to my contact details and were invited to contact me in the case of uncertainties.</li> <li>• Nurses returned the completed questionnaire to the appointed fieldworker.</li> <li>• A general invitation was extended to all the nurses that completed the questionnaire to participate in individual interviews.</li> <li>• Nurses willing to participate in these interviews returned the completed invitation to the fieldworker. The invitation was separate from the questionnaire.</li> </ul>

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**INFORMED CONSENT**

- A detailed information leaflet was handed out to each of the participants during each of the phases, describing the aim and risks of the study (included as Annexure H).
- The individual consent letters for each of the phases are attached as Annexure I.
- Participants were also informed of their rights by the field worker prior to the completion of the PES-NWI.
- Information on the individual interviews and the process of informed consent was explained to each of the participants, prior to conducting the interview.
- Nurses completed the PES-NWI anonymously and could therefore not retract their permission once they have submitted their completed PES-NWI.
- An informed consent document was completed by each of the participants prior to conducting the interview.

**RECORDING OF DATA**

- Participants were informed of the recording of data prior to the start of the interview.
- Participants were assured of the anonymity of the data.

**TRANSCRIBING OF DATA**

- An outside party (professional transcriptionist) was appointed to transcribe the interviews.
- A confidentiality agreement was verbally reached between myself and the transcriptionist.

**STORAGE OF DATA**

- All the collected data was stored on a secure server.
  - Only my promoter and I had access to the stored data.
  - The data was used solely for the purposes of this study and not shared with any third parties.
-

## 2.6 SUMMARY

Building on the groundwork presented in Chapter 1, I moved to present an overview of the research design and -method I selected to conduct the study. This chapter begins by examining the origins of grounded theory and the diverging approaches that developed since its original conception in the 1960s. From this point I moved on to explain constructivist grounded theory – the approach adopted for my study. As part of the discussion on constructivist grounded theory, I explained the different phases and steps included in the data collection and analysis process. Next, I provided an overview of the ethical considerations of the study.

The chapters to follow will provide a comprehensive discussion of the actual data that were collected and analysed in this study. I will present the quantitative and qualitative data in individual chapters in accordance with the phases in which it was collected and analysed. Chapter 3 will address the first phase in the empirical investigation that explored and described the demographic profile of the critical care units and the current practice environment of critical care nurses using quantitative research methods.



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## **CHAPTER 3**

### PRESENTING THE CONTEXT

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### **3.1 INTRODUCTION**

Following the discussion on the science and philosophy of the research design and methods used in the study, this chapter will focus on a description of the context of the study. As outlined in Chapter 2, the study was divided into two phases in which each of the objectives were addressed in several steps. In chapter 3, I address the first phase of the empirical investigation of the phenomenon of a positive practice environment in critical care units. In this Chapter I will provide an overview of current literature on the practice environment of the critical care nurse and the demographic profile of critical care units that participated in the study (objective 1). Next, I move on to discuss the descriptive statistics outlining the current practice environment of critical care nurses (objective 2) as measured by the PES-NWI (Lake, 2002), followed by a discussion of the strategies employed to ensure rigour of the findings for this segment of the study. In describing the context of the study to provide a foundation for the identification of concepts relevant to the emergent theory, I was able to deduce a set of conclusions based on the empirical findings (refer to the discussion of the IDLE™ method (Klopper, 2010) under section 6.2.2.4.3 of Chapter 6). These conclusions are presented at the end of the Chapter and inform the partial development of the conceptual framework in Chapter 6.

### **3.2 PRESENTING THE CONTEXT: A LITERATURE ANALYSIS**

Strauss and Corbin (1990:96) referred to the context as a specific set of properties that pertain to the phenomenon under study. In describing the context, I provide the reader with a mental picture of the conditions and circumstances under which the phenomenon occur. In remaining true to the emergent nature of a grounded theory I recognise that the construction of the properties of the context is a product of both the researcher and the participants. To that end, the empirical findings presented in this Chapter will be viewed in collaboration with the findings of Chapter 4, anchoring the concepts in the data and literature considered relevant to the concepts informing the theory.

In reviewing the literature related to the context of the study, I searched electronic databases such as MEDLINE, CINAHL and PUBMED for peer-reviewed studies and

publications. Boolean searching; OR; AND were used as search techniques and I included key words such as:

- Practice environment.
- Work environment.
- Critical care unit.
- Intensive care unit.
- Nurs\*.

The search yielded several references and citations considered relevant to address the objectives for this segment of the study. As described in section 1.5.2.1 of Chapter 1, the Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006a:14) was reviewed to provide the theoretical underpinning for the investigation in this study. As such I used the framework of the model to present the findings from this segment of the study in a logical and coherent manner. The context for this study is therefore described in terms of the macro-, meso- and micro level.

### **3.2.1 Macro level: The external context**

A discussion of the demographic profile of South Africa and the hospital sector in South Africa is provided in the paragraphs that follow.

#### **3.2.1.1 Demographic profile**

South Africa is divided into nine geographical provinces (figure 3.1) and has an estimated population of 49.32 million according to the midyear statistics provided by Statistics South Africa (2009). The South African population has a kaleidoscope of cultures embedded within different groups that are compiled as follows:

- Africans comprise approximately 79.2% of the total population (39 136 200) and have among them a vast array of different cultures and languages. Nine of the eleven official languages spoken in South Africa are African languages.
- The coloured population amounts to approximately 9% of the total population and that translates to about 4 433 100 people.
- 2.5% of the population (1 279 100) are Indian/Asian; and
- Approximately 9.1% (4 472 100) are White.

An estimated 10.53 million people (21.4%) reside within the Gauteng province, making it the most densely populated area in South Africa. Kwazulu-Natal is the province with the second largest population, with 10.45 million people (21.2%) living in this province. The Northern Cape is the province with the smallest share of the population with an approximate 1.15 million people (2.3%) residing in the province (Statistics South Africa, 2009). Figure 3.1 provides a visual overview of the geographical division of South Africa and also indicates the most spoken languages within each of the provinces. The arrow points to Gauteng province, the location for this research study.

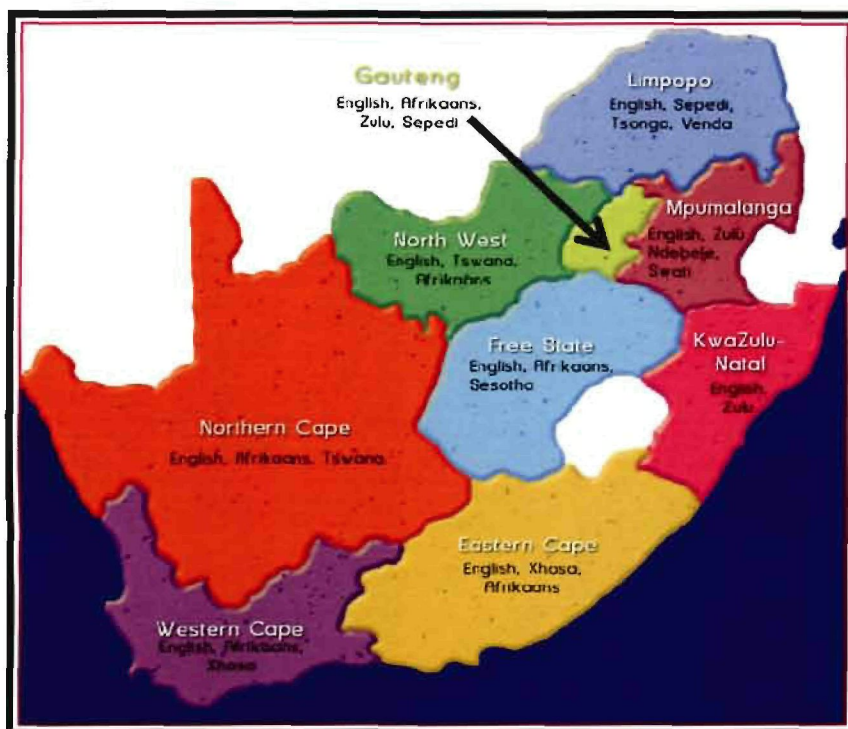


Figure 3.1 Map of the geographical provinces in South Africa

It is estimated that a third of the South African population (31.4%) is aged younger than 15 years and that 23% (3.54 million) of this population live in Kwazulu-Natal and 17.9% (2.78 million) live in Gauteng. Approximately 7.5% (3.7 million) of the population is 60 years or older (Statistics South Africa, 2009). The average life expectancy at birth for males is estimated at 53.5 years and 57.2 years for females. The HIV/AIDS epidemic in South Africa remains alarmingly high. It is estimated that the total number of people living with the HIV virus in South Africa increased from 4.1 million in 2001 to 5.2 million in 2009, translating into 10.9% of the population being HIV positive. For adults aged 15-49 years, an estimated

17% of the population is HIV positive. Approximately one-fifth of South African women in their reproductive ages are HIV positive. The total number of new HIV infections for 2009 is estimated at 413 000. Of these, an estimated 59 000 will be among children (Statistics South Africa, 2009). Table 3.1 provides information on other HIV related estimates for 2009 (Statistics South Africa, 2009).

Table 3.1: Other HIV related estimates for 2009 (Statistics South Africa, 2009)

<b>INDICATOR</b>	<b>ESTIMATE</b>
<b>Number of persons(adults, 15+ years) in need for anti-retroviral therapy (ART)</b>	<b>1 524 000</b>
<b>Number of persons (children) in need for ART</b>	<b>106 000</b>
<b>AIDS orphans</b>	<b>1 910 000</b>
<b>Number of new HIV infections among adults aged 15+</b>	<b>354 000</b>
<b>New infections among children</b>	<b>59 000</b>

With regards to the general health of the population, the South African Demographics and Health Survey (SADHS, 2003:22) reported hypertension and arthritis to be the two major chronic conditions in South Africa. An estimated 410 per 100 000 people died of cardiovascular disease during 2002 in South Africa. Approximately 23% of adult women and 9% of adult men were regarded as obese in 2003 (SADHS, 2003:23). Also in 2003, the SADHS (2003:22) reported that 8.44 % of females and 31.15% of males are smokers, and 21.3% of South African males reported a form of alcohol dependence (Health Systems Trust, 2008:1). Other conditions reported to impact on the general health of the South African population include:

- 58.8 per 1 000 men aged between 60-64 in the private hospital sector were reported to have diabetes in 2007 (Health Systems Trust, 2008:1).
- Asthma affects 8% of South African males in the workplace and 9% of women (SADHS, 2003:28).

Actuarial projections suggest that the rate of cardio-vascular disease will increase, reaching about 666 deaths per day by 2010 (Steyn, 2007).

### 3.2.1.2 Healthcare sector

Healthcare in South African constitutes two major delivery systems, the large public sector, and the smaller, but fast growing private sector. In the following paragraphs, a comprehensive overview of these two sectors will provide the reader with a description of the dichotomy that exists within the context of the two healthcare delivery systems in South Africa. The hospital sector is an important factor in describing the macro-level context in which the nurse, and in particular the critical care nurse functions.

#### 3.2.1.2.1 The public hospital sector

Approximately 80% of the population (that translate to approximately 39 456 000 individuals) depend on the free healthcare services provided by public hospital sector in South Africa (IMCSA, 2008). With an estimated 92 902 beds (HASA, 2009:138) of which 87 870 are usable beds for a population of almost 40 million South Africans, it is not difficult to recognise one of the reasons for an overburdened and under-resourced public hospital sector. According to Khumalo (2008:1), more than 101 million visits to the public healthcare sector occurred between 2006 and 2007.

The following paragraphs will provide an overview of the primary focus of care in the public hospital sector, information on the demographic classification of the hospitals, nursing human resources in the public sector and an overview of the practice environment of the nurse in the public sector.

##### i. Primary focus

Following the 1994 transition to a democratic government, the ruling party, the African National Congress (ANC) introduced a transformation of the South African healthcare sector, by diverting the focus from doctor-driven and curative healthcare, to a **primary healthcare system**, that is nurse-centred and preventative in nature (Bester & Klopper, 2008: 126-131). This decentralised approach was instituted to bring about greater access to healthcare services, but also implied a major resource allocation to facilities other than hospitals. This has seen more public health care services been built to provide primary healthcare especially at district level, but has also led to most of the public healthcare facilities in South Africa being under-resourced and over-burdened. The state contributes

about 40% of all expenditure on health care services in the public sector, which is under enormous pressure to deliver effective healthcare services (Pretorius & Macera, 2009:18).

## ii. Demographic classification

The national health system in South Africa is divided into 53 health districts. According to the Department of Health (DOH, 2006:8-10), hospitals within the public hospital sector are typically classified on one of the following levels:

- **District hospitals** = level 1. Of the estimated 396 public hospitals in South Africa (HASA, 2007b:17), 64% are classified as district hospitals. These hospitals generally provide inpatient and outpatient services and has general medical practitioners on site. They further have functional operation theatres and can perform surgery under general anaesthesia.
- **Regional hospitals** = level 2. South Africa has 63 regional hospitals that provide a combination of the services of both general medical practitioners and specialists with staff permanently employed in the basic specialities that include: medicine, surgery, orthopaedics, gynaecology, psychiatry and paediatrics as well as diagnostic radiology and anaesthetics (Bester & Klopper, 2008:132).
- **Tertiary hospitals** = level 3. Within this allocation we distinguish between Tertiary 1 hospitals, also known as provincial tertiary hospitals, Tertiary 2 or a national referral hospitals, and Tertiary 3, the so-called central referral hospitals. There are currently 15 tertiary hospitals in South Africa, which translates into less than 4% of public hospitals being national or provincial hospitals. The DOH (2006:10) divides level 3 hospitals into three groups based on a list of specialities. A level 3 hospital should comply with at least 50% of the range in Group 1 specialities (Bester & Klopper, 2008:132).
- **Specialised hospitals** = hospitals with a specific focus for example, tuberculosis, psychiatry, infectious diseases and so on.

### iii. Nursing human resources

Another reason for the overburdened and under-resourced state of the public hospital sector seems to involve the shortage of nursing manpower. According to a report by the Solidarity Research Institute (2009:3), South Africa has approximately 468 health workers (inclusive of doctors, professional nurses, enrolled and auxiliary nurses and other medical staff) for every 100 000 people. The World Health Organisation (WHO, 2008) advises a minimum ratio for nurses to population as 200: 100 000. Current figures from the South African Nursing Council (SANC, 2008b) indicate that South Africa has 437 nurses for every 100 000 people. These figures however can be deceiving as it includes all registered categories of nurses. The SANC distinguishes between three breed of nurses, namely:

- The professional nurse (also known as a registered nurse), is defined as a person who is qualified and competent to independently practice comprehensive nursing in the manner and to the level prescribed and who is capable of assuming responsibility and accountability for such practice (Nursing Act no 33 of 2005). The professional nurse typically completed a comprehensive four-year programme to obtain either a national diploma at a Nursing College or a Nursing degree from a university. The registered professional nurse also plays a variety of roles in her professional capacity that include that of clinician, educator, patient advocate, researcher, manager and leader (Bester & Klopper, 2008:108).
- The enrolled nurse (or staff nurse) refer to a person educated to practice basic nursing in the manner and to the level prescribed (Nursing Act no 33 of 2005). The enrolled nurse typically completes a two-year training programme at a Nursing College and usually practice under the supervision of a professional nurse.
- The auxiliary nurse is a person educated to provide elementary nursing care in the manner and to the level prescribed (Nursing Act no 33 of 2005). The training period for an auxiliary nurse is one-year after which a certificate is issued.

The nursing practice of all registered nurses in South Africa is regulated by means of the scope of practice listed in Regulation 2598 of 30 November 1984. With the difference in the scope of practice between the different categories of nurses, it seems important to distinguish between them when applying the numbers to the ratio of nurses to the population. When professional nurses are extracted from the numbers (437 per 100 000

people), the ratio drops to 222 professional nurses for every 100 000 people. Important to note is that this ratio applies to both sectors in the healthcare industry, that is public and private institutions. As indicated in Table 3.2 this translates to a ratio of 451 people for every professional nurse in South Africa (Solidarity Research Institute, 2009:4). More alarmingly however, is the fact that all the nurses that appear on the register of the SANC are not actually working in the South African healthcare sector at the moment. The Nursing Act (33 of 2005) stipulates that in order to appear on the register and to be allowed to practice an annual fee has to be paid. Therefore nurses might pay their dues to remain on the register, but might not be practising nursing at that moment. Evidence of such was provided in the report of Solidarity Research Institute (2009:5) indicating that 18% of nurses registered with the SANC were no longer in practice. If one assumes the percentage to be the same, the ratio for professional nurses to population increases dramatically from 1:451 to 1:550 (Solidarity Research Institute, 2008:5).

Table 3.2: The qualified nurse per population ratio for South Africa (SANC, 2008b)

Province	Professional	Enrolled	Auxiliaries	Total
Limpopo	1:630	1:1649	1:687	1:274
North West	1:486	1:1566	1:747	1:248
Mpumalanga	1:677	1:2024	1:1070	1:344
Gauteng	1:371	1:944	1:648	1:189
Free State	1:395	1:1911	1:955	1:244
Kwa-Zulu Natal	1:450	1:639	1:888	1:203
Northern Cape	1:544	1:2588	1:857	1:295
Western Cape	1:375	1:1062	1:655	1:195
Eastern Cape	1:497	1:2396	1:1161	1:304
<b>TOTAL</b>	<b>1:451</b>	<b>1:1114</b>	<b>1:796</b>	<b>1:229</b>

Health Systems Trust (2008) reported that around 44% of professional nurses in South Africa currently work in the public healthcare sector. That translates to approximately 47 834 of the 103 792 professional nurses on the register of the SANC (SANC, 2008b). This figure probably excludes the 18% reported by Solidarity Research Institute (2009:5) alluded to in the previous paragraph. Additional statistics further indicate that the number of

professional nurses in the public sector per 100 000 population is currently 116.6 and that there was a 40.3% vacancy in professional nurse positions in the public sector in 2008 (Health Systems Trust, 2008).

The alarming shortage of nursing manpower in the public hospital sector contributes to the overburdened status of the nurse working in an industry with a reported increase of 7% in patient admissions in 2008 (HASA, 2008:18). In light of the unbearable workloads, the hospital sector in South Africa also faces the challenge of an ageing workforce. Statistics from the SANC (2008a) indicated that 34% of the South African professional nurse population are between the ages of 40-49. Professional nurses aged 50-59 comprise 27% of the population and only 3% are younger than 30 years of age. It is extremely unsettling to look at these figures and realise that 75% (more than 80 000) of the professional nurse population of South Africa is over 40 years of age. Statistics on the growth in student numbers from the SANC (2008c) indicate an increase in the number of nursing student enrolments. From the data at hand it appeared that the average number of enrolments for students increased from 13 272 in 2006 to 16 457 in 2008 (SANC, 2008c). These numbers however, will not be able to fulfil in the needs of a growing population with a changing disease profile in South Africa (Solidarity Research Institute, 2009: 12).

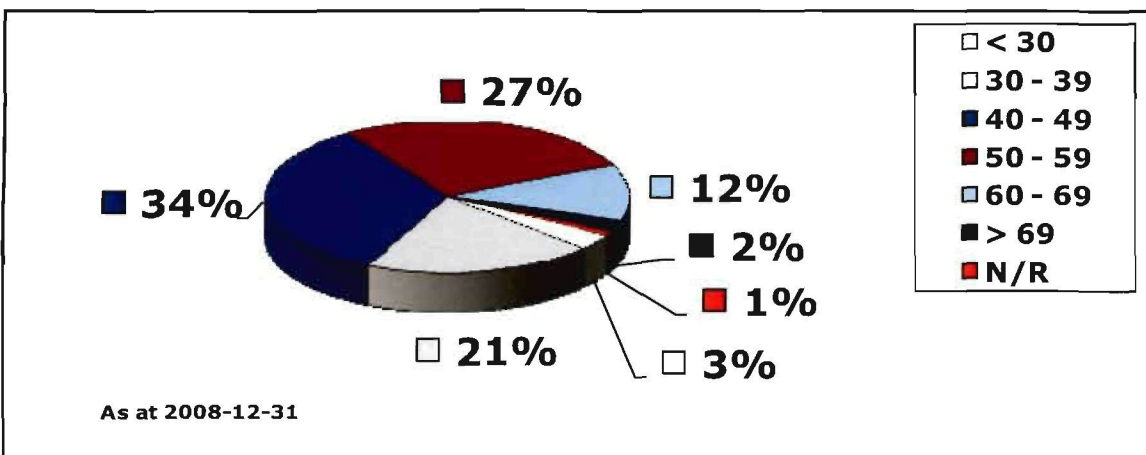


Figure 3.2: Age distribution of registered nurses and midwives (SANC, 2008a)

The combination of the shift in focus of care to a primary health care and nurse-driven model, coupled with acute shortages of nurses and an ageing workforce in an overburdened public hospital sector, contribute to the vicious cycle in which the workload of the nurse increase and the quality of patient care decrease. The cycle ultimately leads to negative practice environments and nurses leaving the profession as a result. In the next paragraph, the practice environment of the nurse in the public hospital sector will be discussed.

#### **iv. The practice environment**

The practice environment of the nurse in the public hospital sector presents multiple challenges and obstacles. According to Bester and Klopper (2008:133), the architectural planning and structure of public hospitals are proving to be ineffective leading to overcrowded units with inappropriate infrastructure. With only 87 870 beds in use to care for a population of almost 40 million people, public hospitals are overburdened and under-resourced. The Solidarity Research Institute (2009:13) reported that some public hospitals in South Africa have nurse-to-patient ratios as high as one nurse for every 18 patients. Hospitals in the Eastern Cape even reported a ratio of 1:50 in some of the general wards. The implication of nurse-to-patient ratios at 1:18 is that a nurse only has three minutes out of every hour to care for each patient, during which she must perform all routine nursing tasks, as well as having to handle any emergency that might occur (Solidarity Research Institute, 2009:13). Adding to the unbearable work load is the increase in hospital admissions due to HIV/AIDS patients. Bester and Klopper (2008:135) reported an estimated annual increase of 100 000 HIV/AIDS patients in South African hospitals in general.

Reporting on the factors that will be influenced if nurse: patient ratios were to be abolished the Solidarity Research Institute (2009:13) referred to an Australian survey (n=1358) conducted by Wise (2007) in support of nurse: patient ratios. According to the report nurses identified the following factors (the % reflect the amount of nurses agreeing with the statement) to be affected in the case of abolishment of nurse: patient ratios.

Table 3.3: Factors affected in the abolishment of nurse-to-patient ratios (Solidarity Research Institute, 2009:17; Wise, 2007)

<b>FACTOR</b>	<b>PERCENTAGE</b>
<b>Working conditions would be worse for nurse</b>	97%
<b>Lower quality care for patients</b>	96%
<b>More work-related stress and fatigue</b>	92%
<b>Less time for personal care of patients</b>	90%
<b>Higher levels of sick leave</b>	90%
<b>More difficult to manage nurses' workload</b>	89%
<b>Nurses would be less able to take their breaks</b>	87%
<b>Less time to complete necessary documentation</b>	86%
<b>Less time to discuss care with relatives</b>	83%
<b>Patient receive medication on time less often</b>	76%
<b>There would be less time for team building</b>	74%
<b>There would be a worse skill mix in my area</b>	74%

Whilst no formally recognised standard for nurse-to-patient ratios exist in South Africa, there seem to be some guidelines. These however focus mostly on the specialised wards such as critical care units. What is important, is that nurse-to-patient ratios ultimately determine nurses' workload, job satisfaction and the quality of care provided (Solidarity Research Institute, 2009:13). The acute shortage of professional nurses is not only impacting on the quality of patient care but is also contributing to the high levels of stress among nurses. An international study conducted by Aiken, Clarke, Sloane, Sochalski and Silber (2002) indicated that hospital nurse staffing numbers closely correlate with patient mortality, nurse burnout and nurse job dissatisfaction.

Studies conducted by the Department of Public Service and Administration (DPSA, 2006:2) and the DOH (2008:334) also report on the lack of managerial skills and leadership in public hospitals, often leading to objectives and policies not being implemented. This resulted in a culture of tolerance towards incompetent managers and a lack of accountability that leaves the nurse to provide quality care in an environment that lack sufficient resources. It

is within this challenging context that the nurse is expected to deliver high quality patient care amid variables that are beyond her control.

### **3.2.1.2.2 The private hospital sector**

The private hospital sector plays an important role in South Africa's healthcare delivery system. Access to these facilities are however still largely limited with an estimated 20% of the population (generally the high- and middle income earners) that can either afford a type of medical aid or pay from their pocket, being the customers of this sector. A medical aid conducts the business of what is internationally referred to as health insurance, meaning that the medical aid accepts premiums in exchange for expenditure incurred by the enrollees for healthcare services (Matsebula & Willie, 2007:159). With 33 891 beds geographically distributed in 259 hospitals (HASA, 2009:138) across South Africa, the private hospital sector provide services to almost 7.8 million people (HASA, 2009:43). HASA (2007b:17) reported that approximately 29.4% of all hospitals visits in the country during 2006 could be accounted to private hospitals. They further predict a steady incline in these figures, reaching almost 34% by 2010. The following paragraphs provide a discussion of the private hospital sector in South Africa in terms of the primary focus in care, demographic classification, nursing human resources and the practice environment of the nurse in the private hospital sector.

#### **i. Primary focus**

With the public healthcare sectors' shift from acute to primary healthcare, private hospitals have begun to take over many of the tertiary and specialist health services (International Market Council of South Africa, 2008). Most of the private healthcare providers have a doctor centric approach and state explicitly that the doctor plays a central role in ensuring the success of a hospital. To that end, decisions to invest on infrastructure and technology are in large determined by the demands of medical practitioners the private hospitals seek to attract (Matsebula & Willie, 2007:165). Private hospital services in South Africa are based on a costing model and the negotiations for prices (Bester & Klopper, 2008:136). According to Matsebula and Willie (2007:160), private hospitals comprise the single largest component of expenditure by medical aids. Compared to the governments' general health expenditure of 38.6%, expenditure in the private healthcare runs at 61.4%.

The selection and provision of services by the private hospital sector is determined by the shareholders, and the industry has seen a growing trend in the private sector to develop so-called 'Centres of Excellence'. The aim of these centres will be to provide specialised care to patients at a hospital that has such a centre (Matsebula & Willie, 2007:164). A proud example of such a centre is the Walter Sisulu Paediatric Centre for Africa located at the Sunninghill hospital in Johannesburg. Over 5 000 corrective cardio-thoracic procedures on babies and children have been performed at the centre over a period of 15 years (Matsebula & Willie, 2007:164).

## **ii. Demographic classification**

The majority of private hospitals in South Africa can be classified as short-stay hospitals with an average patient stay of less than 30 days (Matsebula & Willie, 2007:160). The private hospital sector is predominantly owned by three major hospital groups, namely Netcare, Medi-Clinic and Life Healthcare. Collectively these three groups own and operate more than three quarters of all private sector beds and more than 80% of all private sector theatre facilities (Matsebula & Willie, 2007:159). The remaining 20% is found in what is known as independently owned hospitals affiliated to the National Hospital Network (NHN). In June 2007, the independent hospital sector comprised 58 hospitals, 13 day clinics, 11 psychiatric hospitals, 11 ophthalmology units and 1 rehabilitation centre for substance abuse (HASA, 2007b:12). Approximately 7 224 beds are independently owned in the private hospital sector, of which close to a 1 000 are in the mining sector (HASA, 2007b:13). The following table provides an overview of the distribution of private hospital beds according to hospital group owner for 2007 (HASA, 2007b:13):

Table 3.4: Distribution of private hospital beds (HASA, 2007b:13)

HOSPITAL GROUP	NUMBER OF BEDS
<b>Netcare Holdings (JSE listed company)</b>	7 576
<b>Life Healthcare (unlisted company)</b>	6 849
<b>Medi-Clinic (listed company)</b>	6 732
<b>Other independent</b>	4 084
<b>Gold Fields</b>	869
<b>Community Health</b>	781
<b>Clinix (unlisted company)</b>	657
<b>Melomex (unlisted company)</b>	388
<b>Joint Medical Holdings (unlisted company)</b>	357
<b>Harmony</b>	88

The private hospital sector provides the following bed types:

- Medical.
- Surgical.
- Maternity.
- Neonatal intensive care.
- Intensive care or critical care.
- Specialised intensive care.
- High care.
- Paediatrics
- Psychiatry; and
- Day ward.

The types of health services offered do not differ significantly between the different groups. The health services offered include theatre, joint replacement, cardiothoracic surgery, vascular surgery, neurosurgery, MRI scan, catherisation laboratories, 24-hour emergency services and trauma units (HASA, 2008).

The geographical distribution of private hospitals indicated that Gauteng has the highest number of private hospital beds. The least number of beds is located in the Northern Cape

Province. Interesting to note was that the distribution of private hospitals by province closely related to the distribution of medical aid beneficiaries in that province (Matsebula & Willie, 2007:163).

### **iii. Nursing human resources**

With a sturdy growth and an estimated 3.0 million admissions annually the private hospital sector is a busy industry. Although the Hospital Association of South Africa (HASA, 2009:43) reported that the private hospital sector provide services to approximately 7.8 million people, the General Household Survey of 2006 conducted by Statistics South Africa (2007) indicated that the number of people that opted to use private healthcare services was closer to 15 million. The survey also indicated that an average of approximately 41% of healthcare seekers used private healthcare services. HASA (2009:43) further indicated a notable increase in the overall hospital occupancy from 60% in 2006 to 65.5% in 2008. According to these hospital occupancy calculations, a patient arriving at a private hospital has a 20.1% chance of finding that hospital 60-69% full of patients, a 10.1% chance of finding the hospital 80-89% full and a 3.4% chance of finding the hospital completely full (HASA, 2009:45).

To continue the provision of healthcare services amidst a continued growth in patient numbers, hospitals are highly dependent on nursing staff to ensure the success of their operations. The private hospital sector is therefore considering the current shortage of nurses to be a serious risk and constraint factor that limits the sectors' potential for growth. The higher occupancy rates in private hospitals not only increases the pressure on nursing staff, but also increase the risk of adverse patient events. HASA (2009:53) stated that the demand for nursing services can almost be perfectly correlated with the demand for hospital beds. In light of the increasing number of patients visiting the private hospital sector, HASA (2009:53) estimated that the sector will need 3 756 more nurses to keep their current nursing ratios if an additional 2 million people join a medical aid.

#### **iv. The practice environment**

Practising in a profit-driven environment where caring for the patient has become a commodity, can present several ethical challenges to the nurse (Bester & Klopper, 2008:128). It is within the context of a financially driven environment in which the nurses' decision-making process in terms of patient care is often confronted by the cost-implications thereof. The private hospital sector place great emphasis on economic growth and nurses are expected to have awareness towards saving principles and ensuring that patients are billed for every item used in caring for their health needs.

The private hospital sector further supports a doctor centric model. As mentioned earlier, the decision of private hospitals to invest in expensive equipment and technology are often based on the attraction of medical specialist to a particular hospital (Matsebula & Willie, 2007:165). Hospitals in the private sector are sold to patients through the indirect selling power of doctors and as such the doctor is often considered the most important client in this sector (Bester & Klopper, 2008:136). With the doctor viewed as an essential commodity, issues related to nursing practice are often ignored in this industry, leaving nurses with a sense of undervalue and insufficient support from management.

As indicated in section 3.2.1.2.1 (iii) the growing number of staff shortages in nursing seems to affect both sectors. According to a report by the Hospital Association of South Africa (HASA, 2008:14), the average length of stay per patient in the private hospital sector is estimated to be around three days. When considering the fact that there is only three beds per 1 000 members of the private healthcare population, it portrays the alarmingly high turnover rates experienced in units in the private sector (Bester & Klopper, 2008:140). It is within this context that the nurse working in the private hospital sector is expected to deliver high quality patient care.

#### **3.2.2 Meso level: Organisational context**

In addition to the general overview of the South African hospital sector, the following paragraphs will focus exclusively on the context of the critical care nurse in the study, which is the critical care unit located within the private hospital sector in Gauteng. Where

applicable and for the sake of comparison, a discussion on the critical care environment in the public sector will be provided.

### **3.2.2.1 The critical care practice environment**

Critical care can be considered a young discipline when compared to others. The first critical care units emerged in Europe in the 1950's following the polio epidemic (Bhagwanjee & Scribante, 2007:1311). In South Africa the first unit opened in 1970 at the Addington hospital in Durban, headed by a Swedish practitioner, Dr Neil Goodwin (Pretorius & Macera, 2009:20). Today several critical care units exist around South Africa in both the public and private hospital sector. In their report on the modernisation of tertiary services, Richards *et al.*, (n.a) concluded that it is essential to staff and equip critical care units adequately and appropriately, not only in terms of infrastructure but also human resources as critical care is entirely dependent upon the availability of adequate numbers of well-trained nursing and medical staff. As such the following paragraphs will focus on the critical care environment in terms of a definition of the critical care unit, the unit and bed distribution around South Africa and the status of nursing in critical care units.

Very little information on the status of critical care units in South Africa exist. In the face of this limitation, a national audit was commissioned in 2004 and 2005 under the auspices of the Critical Care Society of Southern Africa (CCSSA). The purpose of the project was to identify available critical care and high care dependency resources in South Africa. To that end a large part of the information provided in the paragraphs to follow was drawn from the report.

#### **3.2.2.1.1 Defining the critical care unit**

A critical care unit according to Gillespie *et al.* (2006:52), comprises a designated area in the hospital in which critically ill patients are cared for by a team of specialised members of the multi-disciplinary team. The nurse-to-patient patient ratio is typically lower in these units, compared to those of wards. The critical care unit is designed to provide comprehensive care to critically ill patients and contains complex multi-system life support equipment such as mechanical ventilation, renal replacement therapy, inotropic support and invasive cardiovascular monitoring.

### 3.2.2.1.2 Unit and bed distribution

South Africa has 396 acute care hospitals in the public hospital sector and 256 hospitals in the private hospital sector. Scribante and Bhagwanjee (2007c:1322) reported that 77% of the public hospital sector in South Africa do not have critical care facilities, compared to the 16% in the private hospital sector (refer to table 3.5).

Table 3.5: Hospital facilities by province (Scribante & Bhagwanjee, 2007c:1322)

	EC#	FS	GP	KZN	LIM	MP	NC	NW	WC
<b>Public with CCU/HCU*</b>	16	4	<b>15</b>	22	7	7	2	6	17
<b>Public without CCU/HCU</b>	63	26	<b>14</b>	49	38	23	24	25	42
<b>Private with CCU/HCU</b>	8	7	<b>67</b>	25	1	5	3	6	23
<b>Private without CCU/HCU</b>	6	3	<b>17</b>	5	1	3	1	3	6

#EC=Eastern Cape, FS=Free State, GP=Gauteng, KZN=Kwa-Zulu Natal, LIM=Limpopo, MP=Mpumalanga, NC=Northern Cape, NW=North West, WC=Western Cape.

\*Critical care unit/High care unit

According to their national audit of critical care and high care dependency resources in South Africa, Bhagwanjee and Scribante (2007b:1312) indicated that the majority of critical care units were located in the private hospital sector. Within the public hospital sector 23% of hospitals had critical care/high care facilities, compared with the 84% in the private hospital sector. A significant disparity in the bed distribution between the two sectors exist indicating a total of 1 783 beds in the public sector compared to the 2 385 beds in the private sector, resulting in a 57% representation in the private sector. The geographical distribution indicated that the majority of these units and beds (86% or 3 246 out of 4 168 beds) were located in the Gauteng, Kwa-Zulu Natal and Western Cape Provinces. According to Scribante and Bhagwanjee (2007a:1308), a total of 244 024 patients were admitted to all critical care units in South Africa, during 2002, of whom 63% (154 044) were to private sector units and 37% (89 980) to public sector units.

As indicated by table 3.5, a total of 67 private hospitals in Gauteng have critical care facilities. Considering the fact that 63% of all admissions to critical care units occurred in the private sector, one can conclude that the lifestyle of critical care nurses working in these

units, specifically in Gauteng, must be extremely taxing, supporting the construction of a grounded theory for positive practice environments.

### **3.2.2.1.3 Status of critical care nursing**

With the advances in medical science and technology one can argue that the delivery of safe and high quality care in critical care units is complex, and can only be delivered by nursing experts in the field of critical care nursing. Richards *et al.* (n.a) alluded to this fact in stating that the current crisis in critical care units involves nursing staff, as several critical care units no longer have any critical care trained nursing staff to lead and train others. A cadre of adequate and well-trained nursing staff is essential in delivering safe and effective healthcare to the patient in the critical care units. Scribante and Bhagwanjee (2007b:1315) support the statement in adding that nurses are considered the backbone of any healthcare system, and that the quality of nursing directly affects patient outcomes.

A study conducted by the Human Science Research Council (HSRC, 1991:4) of South Africa in the late 1980s identified low morale and a desperate shortage of critical care nurses as factors contributing to the overall dissatisfaction among critical care nurses. Unfortunately no steps were taken by any of the healthcare sectors to deal with this deficiency (Scribante & Bhagwanjee, 2007b:1315). Statistics from the SANC indicated that South Africa had 3 100 trained critical care nurses listed on the register 1996. This number has since decreased to approximately 2 537 in 2005. In their report on the nursing profile of South African critical care units, Scribante and Bhagwanjee (2007b:1316) reported that 74.8% or 335/448 of nursing managers were critical care trained with an average of 12.8 years experience in critical care nursing. Approximately 25% (1490/5821) of nurses working in critical care units were critical care trained, indicating a shortfall of about 50% when compared with international findings suggesting that 75% of the critical care workforce should have a critical care qualification (Williams & Clark, 2001: 106). When examining the figures reported by Scribante and Bhagwanjee (2007b:1316) compared to the statistics provided by the SANC (2007), a discrepancy is noted. According to the figures provided by the SANC, South Africa had a total number of 2 593 trained critical care nurses on the register in 2004 and 2 537 in 2005. This can probably be attributed to the fact the SANC maintains a register

of nurses in South Africa, which gathers information pertaining to their qualifications, but does not track whether these nurses are practising at that moment.

In total there are approximately 4 168 critical care and high care beds in South Africa that are serviced by 4 584 professional nurses. The nurse-to-bed ratio is therefore 1.1 nurses per critical care/high care bed, with no difference in this ratio between the public and private sectors. Conversely, in the public sector there are fewer (0.3) critical care trained nurses per bed when compared with the 0.5 in the private sector (Scribante & Bhagwanjee, 2007b:1316). When compared with international literature (Williams & Clark, 2001: 106), suggesting that the ideal ratio is 6.7 nurses per critical care bed, provided that at least 50% of these nurses have a critical care qualification it is evident that both hospital sectors in South Africa fall short of these numbers. Recognising that 6.7 nurses might be the gold standard and instead using an average of three nurses per bed, given the current bed supply as determined by Scribante and Bhagwanjee (2007:1317), South Africa has a national deficit of 7 920 critical care nurses.

Adding to the nurse staffing crisis in critical care units, is the fact that only 5.7% of nurses have 20 years or more experience in critical care nursing, whilst 42.8% of nurses have 0-5 years' experience contributing to the occurrence of adverse events, that are more likely to occur when nursing staff inexperience is combined with shortages, poor supervision and lack of support (Scribante & Bhagwanjee, 2007b:1317). Another concern when examining the status of nursing in critical care is the low morale that nurses reported on. Scribante and Bhagwanjee (2007b:1318) report on the findings of a qualitative study exploring nurses' perceptions of working in a critical care unit. The results reported nurses describing a dichotomous nightmare of working in two worlds. On the one end, the intra-personal experiences were very positive (passionate), but inter-personal experiences were described as very negative (nightmare) on the other end.

Several of the factors described in the previous paragraphs indicate the dichotomy that exists between the public and private hospital sectors in South Africa. It is however also clear that both sectors are experiencing an alarming shortage of critical care nurses and are facing enormous challenges in terms of delivering safe and effective patient care. Although

the private hospital sector are not nearly as burdened by infrastructural deficiencies as their public sector counterparts, the challenges presented by a shortage of adequately trained and enough nursing numbers in critical care units, seem to contribute to the negative practice environment across borders. In describing the general context of the critical care nurse, the focus will now be shifted to the units that participated in the study.

The following paragraphs will therefore focus exclusively on a discussion of the population and sample of the study, the demographic checklist used to describe the sample and the subsequent data collection and analysis. This will provide the demographic context in which this study was conducted.

### **3.2.2.2 Method**

The first phase of the research study involved two data collection instruments that will be described separately. As such the first section will focus on the checklist compiled to describe the demographic characteristics of the units included in the sample, followed by a discussion on the PES-NWI used to describe the perceptions of critical care nurses on their current practice environment in section 3.2.3 of this chapter.

In order to collect the data for this segment of the study (pertaining to both the demographic checklist and the PES-NWI), a copy of the research proposal and an ethical application was lodged with the three major private hospital groups in South Africa. Ethical clearance to conduct the research in their facilities in Gauteng was obtained from two of the three groups (refer to Annexure B).

#### **3.2.2.2.1 Population and sample**

In order to determine the population for the first phase of the research study, I compiled a list of all the hospitals within the two groups that had a bed capacity exceeding 100 beds and adult critical care facilities. To ensure a degree of homogeneity amongst the units, I applied the following inclusion criteria:

- The critical care unit must be in Gauteng province. Private hospitals from Gauteng were included in the study because, it is the most densely populated province in

South Africa and also carries the highest number of beds in the private hospital sector (refer to section 3.2.1.1 and section 3.2.1.2.2(ii) of Chapter 3).

- The critical care unit had to be based in a hospital with a bed capacity of more than 100 beds.
- Only adult critical care units were selected.
- Any discipline of care were included, i.e. trauma, medical, surgical and multi-disciplinary units.

An all inclusive sample of the critical care units (N=42) meeting the inclusion criteria were invited to participate in this segment of the study. In light of the size of the population and in recognition of the degree of participant mortality in response rates, I opted for an all inclusive sample to obtain as much data as possible. A total of 31 checklists (n=31) were returned from unit managers working in the critical care units that participated in the study, resulting in a response rate of 74%.

#### **3.2.2.2.2 Checklist**

De Vos *et al.* (2005:179) defines a checklist as a type of questionnaire consisting of a series of items, in which the participant is requested to indicate the items that best describe their situation. In exploring the demographic profile of critical care units that participated in the study, I developed a checklist. The list was compiled following a comprehensive literature review and in consultation with a statistician based at the university. The total checklist consisted of one page and is attached as Annexure C.

The checklist collected data on seven variables in each of the selected units. The variables were tabulated with instructions on the completion of the different sections indicated on the top of the table.

The variables included:

- A. The type of unit (medical, surgical, trauma, multi-disciplinary or other). The unit managers were requested to indicate their response with an 'x' in the applicable column.
- B. The number of beds in the unit.

- C. The bed turnover rate of the unit. The unit managers were requested to supply the rate as a percentage.
- D. The average patient acuity of the unit was indicated by marking any of the levels currently used by the private hospital sector to indicate the acuity for the unit. These levels are determined by the management of a hospital taking into consideration factors such as mechanical ventilation, use of inotrope therapy and renal replacement therapy. The acuity levels usually imply the nursing hours spent in caring for the patient.
- E. The skill mix in the unit in terms of trained critical care nurse – in other words nurses registered with the SANC to have an additional qualification in clinical nursing or critical care nurses with experience in the critical care environment.
- F. The staff turnover rate for 2008 indicated as a percentage; and
- G. The staff absenteeism rate for the unit during 2008 indicated as a percentage.

#### **3.2.2.2.3 Data collection**

Data collection occurred over a period of three months during which I visited each of the hospitals participating in the study personally. The scope of the project as well as the instruments was presented to the nursing service manager of that hospital. The contact details of each of the units participating in the study were obtained. The unit managers of each of the units were contacted electronically and requested to complete and return the checklist within two weeks. I provided a detailed description on the completion of the checklist and invited the unit managers to contact me in case of any uncertainties pertaining to the completion of the checklist. A completion reminder was sent to the unit managers after one week. A telephonic prompt and another electronic reminder (e-mail) were sent after the two-week period expired to unit managers that did not respond to the first call. A third reminder was sent electronically to the unit managers that did not respond to the others prompts. At the end of the three month period a total of 31 checklists were received for analysis. A unique code from a pre-determined coding framework was assigned to each checklist to ensure the anonymity of the data collected from each unit.

#### 3.2.2.2.4 Data analysis

The data extracted from the checklist was captured on two separate sheets using EpiData 3.1 (Lauritsen, 2008). A validation report was obtained for both sets of data and typing errors corrected prior to the analyses. Data was analysed using SPSS 16.0 (SPSS, 2007) package with descriptive statistics. Responses for units who did not answer all items were included in the scores. The score range for the first variable, namely the type of unit, was 1-4, whilst the scoring range for the average patient acuity variable was 1-5. Measures of central tendency were used to describe the mode, mean and standard deviations of the checklist.

#### 3.2.2.2.5 Discussion: Demographic profile of critical care units

An analysis of the type of units that participated in the study indicated that 74% (23/31) of the units that participated indicated they operated as multi-disciplinary units. Three units (9.67%) indicated that they function as surgical units, and another three (9.67%) operated as other, indicating that they care for coronary patient only, thus defining themselves as coronary care units. The remainder of the sample included one medical unit (3.22%) and one trauma unit (3.22%). Figure 3.3 provides an illustration of the types of units that participated in the study.

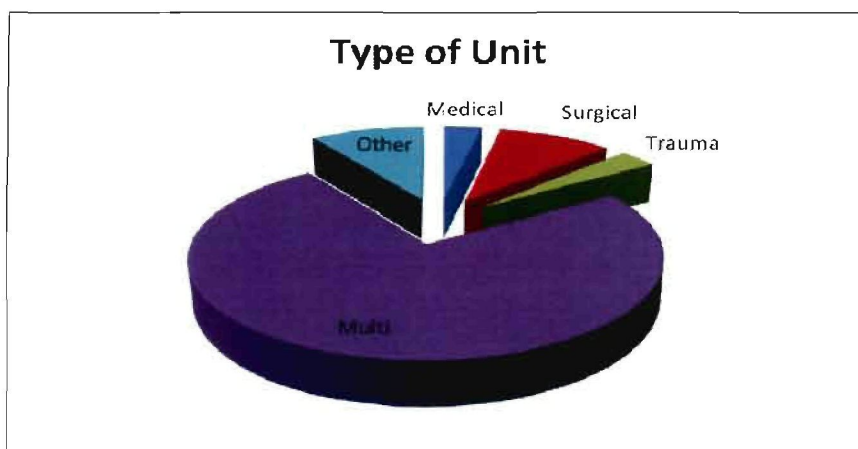


Figure 3.3: Types of units

The average number of beds in the units that participated in this study was calculated as 12.7 (SD 5.62) beds per unit (range 4-30). The average bed occupancy rates ranged from 29% to 99% with a mean of 68% (SD 18.64). The mean patient acuity was 20 (SD 1.31), with

38.7% (12/31) of the units indicating an acuity of 18, 19.3% (6/31) reporting an acuity of 20 and 9.6% (3/31) having an acuity of 16. Five of the units (16.1%) reported an acuity of 22, and another five (16.1%) indicated that they have acuity levels exceeding 22 (refer to figure 3.4).

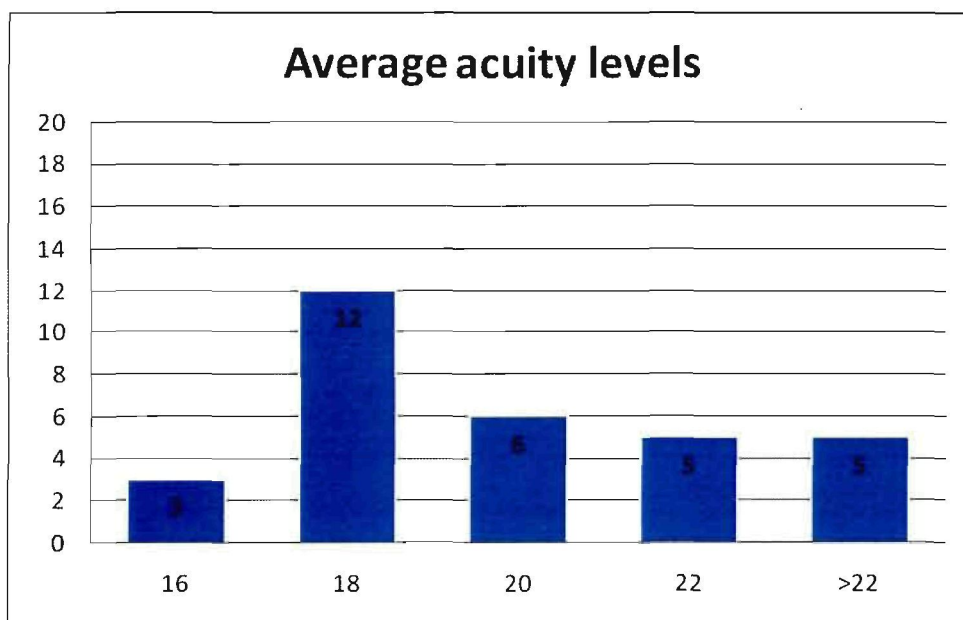


Figure 3.4: Patient acuity

Approximately 8.2 (SD 5.51) nurses per unit were reported to have a critical care qualification, compared to 8.6 (SD 7.26) that reported to have critical care experience only. The mean turnover rate of nurses in the units for 2008 was approximately 11.2% (SD 11.46) with an absenteeism rate of 7.74 % (SD 10.77) per unit. Table 3.6 provides a summary of the characteristics of the critical care sample.

A report by Chiang and Lin (2008:923) indicated that an annual nurse turnover rate of more than 15% was considered to be high and in need of management. With an average turnover rate of 11.2% across the units that participated in this research study and 11 of the 31 units reporting turnover rates ranging from 15-81%, the practice environment of these nurses present a serious concern.

Table 3.6: Characteristics of the critical care sample

Characteristic	Mean	S.D.
Beds	12.7	5.62
Bed occupancy rate for 2008	68%	18.64
Patient acuity level per unit	20	1.31
Critical care trained nurses per unit	8.2	5.51
Critical care experienced nurses per unit	8.6	7.26
Staff turnover rate for 2008	11.2%	11.46
Staff absenteeism rate for 2008	7.74%	10.77

### 3.2.3 Micro level: Unit context

In light of the context provided by the demographic profile described in section 3.2.2, I now move on to discuss the current practice environment of critical care nurses that participated in this study. In the paragraphs to follow a discussion of the method, with particular reference to the population and sample, instrument, data collection and analysis will provide the foundation for the discussion of the findings regarding their current practice environment.

#### 3.2.3.1 Overview

The practice environment of the nurse is a complex construct to conceptualise and measure. Lake (2002:177) described the theoretical foundations of the concept to be rooted in the sociology of organisations, occupations and work. She was also of opinion that in any particular hospital the nursing practice environment reveals the hospital managers' approach to resolving dilemmas of organisation and work. Two issues seemed paramount in the organisations of many workers in large-scale tasks and these included: decision-making control over work and coordination of the work efforts across workers (Lake, 2002:177). The author further indicated that work arrangements in hospitals range between two ideal types, the so-called bureaucratic and professional models of work organisation. With the bureaucratic model the emphasis is placed on hierarchical authority and formal rule enforcement to exercise control. The bureaucratic model is also task-centred. The professional model on the other hand, places emphasis on the goal, and

values individual qualifications and collegial control systems (Lake, 2002:178). According to Lake (2002:178), the professional model is preferred as it allows for greater professional-nurse presence with the patient, which allows for preventative and monitoring actions. The model further allows for greater decision-making authority and flexibility for the nurse, which support rectifying actions that are appropriate and efficient. Lake (2002:178) concluded that these theoretical considerations underlie the construct nursing practice environment, which can be defined as the organisational characteristics of a work setting that facilitate or constrain professional nursing practice.

A review of the literature indicated that nurse shortages are occurring globally due to a combination of factors. Information on the status of critical care nursing in South Africa indicated that some of these factors include an ageing workforce, fewer individuals entering the profession, the inability of the healthcare sector to retain nursing staff and a negative practice environment (HASA, 2008:18; SANC, 2008a; Solidarity Research Institute, 2009:12; Scribante & Bhagwanjee, 2007b:1315). The practice environment of the nurse has been widely discussed as an important issue in attracting and retaining professional nurses (van Bogaert, Clarke, Vermeyen, Meulemans & Van de Heyning, 2009: 56). Schubert, Glass, Clarke, Aiken, Schaffert-Witvliet, Sloane and de Geest (2008:1) reported that a negative practice environment is associated with job dissatisfaction, burnout, work-related injuries and high staff turnover rates. Following the national nurse shortage in the 1980s in the United States of America, the American Academy of Nursing commissioned a study to investigate why some hospitals were able to attract and retain nurses amidst a national shortage (Middleton, Griffiths, Fernandez & Smith, 2008:366). These hospitals were referred to as 'Magnet hospitals'. Pioneering research on these hospitals indicated that organisational factors influence the recruitment and retention of professional nurses, and that 'Magnet hospitals' provide an excellent and professional practice environment for the promotion of nursing and high-quality patient care (Van Bogaert *et al.*, 2009:56; Middleton *et al.*, 2008:366).

Following the preliminary research into 'Magnet hospitals', Kramer and Hafner in 1989 developed the Nursing Work Index (NWI) to measure hospital organisation traits. The NWI was an all-inclusive list of factors having a bearing on nurse job satisfaction and perceived

productivity. The NWI comprised a 65-item inventory and was developed from the characteristics of the 41 'Magnet hospitals', as well as 25 years of literature on job satisfaction and work value instruments (Li *et al.*, 2007:33; Middleton *et al.*, 2008:367). Although the NWI provides strong foundations for measuring the practice environment of the nurse, its substantive domains were not empirically identified. The 65-item was also burdensome for participants to complete (Lake, 2002:176). Thus, Aiken and Patricia developed the revised NWI (NWI-R) in 1989. The NWI-R consisted of 57-items in a four subscale questionnaire that measured the characteristics of professional nursing practice environments.

In 2002, Lake took an empirical approach to further adapting the NWI into the Practice Environment Scale of the Nursing Work Index (PES-NWI). The primary objective for the development of the PES from the NWI was to present a parsimonious, psychometrically sound scale with empirically derived subscales (Lake, 2002:177). The author selected 48 of the 65 original NWI items that met the definition of a nursing practice environment. An exploratory factor analysis was conducted using the data from Kramer and Hafner's study and included a 25% random sample of nurses (n=1 610) in 16 'Magnet hospitals' (Li *et al.*, 2007:33). A five-factor solution with 31 items was derived. Reliability of the subscales was supported by Cronbach's alphas ranging from .71 to .84 for individual nurse data, inter-item correlations from .64 to .91 and mean inter-rater reliability from .86 to .97. Construct validity of the subscales were supported by their ability to differentiate between 'Magnet' and non-'Magnet' hospitals (Li *et al.*, 2007:33). The PES-NWI was also endorsed by the American National Quality Forum (National Quality Forum, 2004) as a Nursing Sensitive Performance Measure. Subscales were named based on their conceptual interpretation of each item set in the context of the 'Magnet hospital' findings. The five subscales and items listed in each included: *Nurse Participation in Hospital Affairs* (nine items), *Nursing Foundations for Quality of Care* (10 items), *Nurse Manager Ability, Leadership, and Support for Nurses* (5 items), *Staffing and Resource Adequacy* (4 items), and *Collegial Nurse-Physician Relations* (3 items) (Lake, 2002:181). The first two subscales appeared to reflect the hospital-wide environment. The latter three subscales – *Nurse Manager Ability, Leadership, and Support for Nurses*, *Staffing and Resource Adequacy*, and *Collegial Nurse-Physician Relations* – , were considered to be more unit-specific (Lake, 2002:184).

### 3.2.3.2 Method

As discussed in section 3.2.2.2 of this chapter, data collection in the first phase of the research study involved two separate instruments. With the results of the demographic checklist in mind, I now move on to describe the second instrument used. The Practice Environment Scale of the Nurse Work Index (PES-NWI) developed by Lake (2002) was used to describe the current practice environment of critical care nurses. In the following paragraphs I will provide a comprehensive discussion on the population and sample for this part of the study, a discussion of the instrument, the data collection and analysis process followed and the results of the analysis will be discussed.

#### 3.2.3.2.1 Population and sample

The population for this segment of the study included all the professional nurses working in the critical care units of the two private hospital groups in Gauteng. To ensure homogeneity of the sample, I included the following criteria:

- Nurses had to be registered with the South African Nursing Council, trained as a critical care nurse or with experience in critical care nursing; and
- they had to be proficient in Afrikaans or English.

The sampling of critical care nurses occurred in **two stages**. The first stage applied to this segment of the study and will be discussed in the paragraph to follow. The second stage, pertaining to the qualitative data collection section, will be described in detail in chapter 4.

For the **first stage** and in order to determine the validity of the PES-NWI scale for the study population, the statistical consultant suggested a sample size of at least 300 participants (Tabachnick & Fidell, 2001). As response rates to surveys involving nurses are at best, moderate, I decided to invite all the nurses (that met the inclusion criteria) working within the selected critical care units (n=42) in the study to complete the survey. Critical care units from two of the hospitals decided not to participate in the research study, leaving 40 critical care units with a total number of 741 critical care nurses eligible to participate in the study.

### 3.2.2.2.2 Instrument

A self-administered questionnaire that included the PES-NWI was used to collect the data for this segment of the study<sup>1</sup>. The questionnaire was divided into four sections that comprised of the following:

- SECTION A: ABOUT YOUR JOB

The section focused on the practice environment of the nurses and included the PES-NWI, questions related to job satisfaction and the Maslach Burnout Inventory (Maslach and Jackson, 1985).

- SECTION B: QUALITY AND SAFETY

In this section nurses were asked to respond on issues related to the safety and quality of care delivered to patients in their unit. Nurses also reported on the occurrence of incidents involving patients in their units.

- SECTION C: ABOUT YOUR MOST RECENT SHIFT AT WORK IN THIS HOSPITAL

Section C focused on questions related to work schedules and nurse: patient ratios in the units.

- SECTION D: ABOUT YOU

The demographic characteristics of nurses were explored in this section of the questionnaire and included questions related to age, gender and level of education, amongst others.

The questionnaire was seven pages long and nurses were asked to indicate the extent to which they agreed that each of the items was present in their current job. Considering the objective of this section of the study, which was to explore critical care nurses' perception of their current practice environment, the following sections will focus on the data pertaining to the PES-NWI for critical care units. As mentioned in section 3.2.3.1 of this Chapter, the PES-NWI comprised of five subscales.

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<sup>1</sup> As described in Chapter 1, this research study is embedded within in collaborative international research project known as Registered Nurse Forecast (RN4CAST)(Sermeus *et al.*, 2008). In light of the fact that the PES-NWI forms part of the battery of instruments administered to nurse participants of the project, the data for this segment of the study was extrapolated from the RN4CAST questionnaire.

The first subscale, *Nurse Participation in Hospital Affairs*, revealed the participatory role and valued status of nurses in a broad hospital context. The second subscale, *Nursing Foundations for Quality of Care*, focused on nursing foundations to ensure a high standard of patient care and placed emphasis on a pervasive nursing philosophy and a nursing rather than medical model of care. The third subscale, *Nurse Manager Ability, Leadership, and Support for Nurses*, looked at the critical role of the nurse manager and her key qualities. The fourth subscale, *Staffing and Resource Adequacy*, looked at having adequate staff and support resources to provide quality patient care. The items with the highest factor loading in this subscale referred to having enough nurses. The fifth and smallest subscale, *Collegial Nurse-Physician Relations*, was characterised by the positive working relationship between the nurse and the doctor (Lake, 2002:181-182).

Although the original PES-NWI comprised of 31-items in five subscales, the instrument was slightly modified due to the following reasons: Lake (2002:186) reported a lower consistency of the fifth subscale, *Collegial Nurse-Physician Relations*, in her development of the PES-NWI. She attributed this to the small size of the subscale, consisting of only three items and suggested that the three items could be augmented with additional statements from the 'Magnet hospital' findings. To that extent the principal investigators, responsible for the development of the RN4CAST questionnaire, decided to add an additional four items to this subscale. The following original items were replaced with items exploring the *Collegial Nurse-Physician Relations*:

- 'Supervisors use mistakes as learning opportunities, not criticism' from the subscale *Nurse Manager Ability, Leadership, and Support for Nurses*, was replaced with 'Physicians value nurses' observations and judgment.
- 'Nursing administrators consult with staff on daily problems and procedures' from the subscale *Nurse Participation in Hospital Affairs*, was replaced with 'Physicians hold nurses in high esteem'.
- 'Use of nursing diagnosis' from the subscale *Nursing Foundations for Quality of Care*, was replaced with 'physicians respect nurses as professional; and
- 'Physicians recognises nurses' contributions to patient care' was added.

Some of the descriptive job titles were also altered to suit the South African context. These changes included renaming 'staff nurses' to 'registered nurses', and 'administration' to 'management'. In addition, I also chose to include some of the demographic data on the nurses collected in SECTION D: ABOUT YOU, in which nurses were asked questions about their gender, age, level of education (baccalaureate degree or other), satisfaction with nursing as a career choice, years in nursing, and years in current hospital to describe the characteristics of the nurses that participated in the study. The instrument is attached as Annexure D.

#### **3.2.3.2.2 Data collection**

Data collection occurred over a period of three months in which I visited nursing service managers in each of the hospitals with critical care units included in the study. I provided each of the nursing service managers with an information letter (refer to Annexure G) explaining the research study in detail prior to scheduling a meeting. An hour meeting was arranged, leaving it to the nursing service manager to invite whom ever she wished to the information session. In some hospitals the nursing service manager preferred the unit managers of the units involved in data collection to be present, whereas others preferred a meeting between senior nursing management and me only.

In light of the geographical distribution of critical care units in the study, I appointed fieldworkers to assist in the distribution and collection of questionnaires in the different hospitals. Since all of the fieldworkers were permanent employees of the different hospitals, the appointment was done in collaboration with the nursing service manager of each of the hospitals. A letter with information (refer to Annexure F) on the research study and the distribution and collection process to be followed was compiled for each of the fieldworkers and discussed in detail upon their appointment. As part of the project budget, provision was made for a financial incentive to the fieldworker for each completed questionnaire. The terms of the incentive was discussed with the fieldworkers in the presence of the nursing service manager to ensure that the payment of such incentives was done according to each individual hospital's policy.

The next step involved the coding of the questionnaires to ensure anonymity of the data. The nursing service manager provided me with the number of eligible nurses working in each of the units included in the study. The surveys were coded according to a coding framework, before being handed to the fieldworker for distribution. An information leaflet with my contact details and an explanation of the research study was attached to the surveys (Annexure H). The fieldworkers took the responsibility to explain the research study to participants and to distribute and collect the surveys over a 4-week period. Any questions or uncertainties regarding the project were referred to the researcher. In an attempt to ensure a reasonable return of questionnaires, an electronic reminder (e-mail) and telephone prompt to the fieldworkers was made 3-4 days prior to collecting the surveys from each of the hospitals.

#### 3.2.3.2.4 Data analysis

From the 40 critical care units, 298 (40%) of the 741 eligible nurses that were approached completed the questionnaire (refer to Table 3.7). Data capturing was executed by me and a co-capturer on Epidata 3.1 (Lauritsen, 2008) and both sets were verified to be similar prior to the analysis of the data. All data were analysed using SPSS 16.0 (SPSS, 2007). The response were rated on a 4-point Likert-type scale with choices ranging from (1) strongly disagree, (2) somewhat disagree, (3) somewhat agree and (4) strongly agree. The values were coded for data analysis so that higher numbers indicated better agreement. Subscale scores were calculated as means of the items in the subscale. Responses for nurses who did not answer all items were included in the subscale scores, with missing values for questions not answered (Lake, 2002).

Table 3.7: Sampling of the study units and participants

	Hospital Group A	Hospital Group B	Total
<b>Units (%)</b>	23 (74%)	8 (26%)	31(100%)
<b>Administered questionnaires</b>	613	128	741
<b>Returned questionnaires</b>	233	65	298
<b>Response rate</b>	38%	51%	40%

A principal component analysis and rotation (Oblimin with Kaiser Normalization) was used to identify the subscales of the PES-NWI. According to Terre Blanche *et al.* (2006: 248), a factor analysis is used to identify a relatively small number of factors in order to represent the relationship among a set of interrelated variables. A factor analysis usually involves three steps, namely:

- 1) Computing the intercorrelations between variables.
- 2) Extracting the initial factors; and
- 3) Rotating the factors to obtain a clearer picture of the factor content.

According to Munro (2005:327), the number of participants needed to conduct a factor analysis is usually assessed in relation to the number of variables being measured. A ratio of at least 10 participants for each variable is considered to be desirable to generalise from the sample to a wider population. In this study a ratio of close to 10 participants (9.32) was achieved for each of the variables measured.

In order to determine the strength of the relationships between the variables to decide if a factor analysis was appropriate, the Bartlett's test of sphericity was used. The probability reported was 0.00 supporting the use of a factor analysis. According to Munro (2005: 336), a Kaiser-Meyer-Olkin measure between 0.80-0.90 support the use of a factor analysis. The Kaiser-Meyer-Olkin (KMO) test was used to examine sampling adequacy, and measured 0.924. Items with a factor loading above 0.30 and factors containing at least three items were used for factor interpretation. Factor scores were calculated as the mean of items contributing to the factor so that missing data were automatically replaced by the mean substitution and so that factor scores could be interpreted on the original Likert scale of measurement. Measures of central tendency were used to describe the mean and the standard deviation of the subscales. Burns and Grove (2007: 415,545) describe measures of central tendency as statistical procedures used to determine the centre of a distribution of scores. As such the mean, which is the most commonly used measure of central tendency, refers to the sum of scores divided by the number of scores being summed. The standard deviation refers to the square root of the variance. In other words, just as the mean is the average value, the standard deviation is the average difference or deviation in the value (Burns & Grove, 2007:418).

### 3.2.3.2.5 Discussion

The gender profile of the critical care units indicated that nurses working in these units were predominantly female (91.9% or 274 out of 298) compared to the 5.7% (16 out of 298) being male. The participants' ages ranged from 23 to 62 years ( $M = 41.29$ ,  $SD = 8.92$ ), with 23.5% of the nurses educated at baccalaureate level. Of the participants, 11.4% indicated that they were very dissatisfied with their choice of nursing as a career as supposed to the 36.2% indicating that they were very satisfied with their choice. Participants had worked an average of 16.49 years in nursing and 6.10 years on the present hospital unit. The demographic characteristics of the nurses that participated in the study is summarised in Table 3.8.

Table 3.8: Nurses' demographic characteristics (n=298)

<b>Age (mean <math>\pm</math> SD)</b>	<b>41.29</b>	<b>8.92</b>
<b>Years in nursing (mean <math>\pm</math> SD)</b>	<b>16.49</b>	<b>9.18</b>
<b>Years on present hospital (mean <math>\pm</math> SD)</b>	<b>6.10</b>	<b>5.35</b>
	<b>Total sample</b>	<b>(%)</b>
<b>Female</b>	<b>274</b>	<b>91.9*</b>
<b>Male</b>	<b>16</b>	<b>5.4</b>
<b>Education</b>		
<b>Diploma in Nursing</b>	<b>209</b>	<b>70.1%</b>
<b>Baccalaureate degree in Nursing</b>	<b>70</b>	<b>23.5%</b>
<b>Satisfaction with nursing as career choice</b>		
<b>Very dissatisfied</b>	<b>34</b>	<b>11.4%</b>
<b>A little dissatisfied</b>	<b>40</b>	<b>13.4%</b>
<b>Moderately satisfied</b>	<b>107</b>	<b>35.9%</b>
<b>Very satisfied</b>	<b>108</b>	<b>36.2%</b>

\*: Please note that there were 8 missing values for gender accounting for 2.7% of the population.

The end results of the principal factor analysis and rotation (Oblimin with Kaiser Normalization) on the 32 items are displayed in table 3.9. The factors with a loading of less than 0.30 are not indicated in Table 3.9. A 5-factor solution produced the most internally

consistent and conceptually coherent subscales. Five clear and meaningful subscales, as with the original PES-NWI, were identified.

Table 3.9: Results of the principal component analysis and reliability indices.

PATTERN MATRIX					
ITEM	COMPONENT				
	1	2	3	4	5
<b>NURSE MANAGER ABILITY, LEADERSHIP AND SUPPORT</b>					
5.Career development/clinical ladder opportunity	.819				
18.Opportunities for advancement	.729				
4.Active staff development or continuing education programs for nurses	.657				
6. Opportunities for RN's to participate in policy decisions	.624				-.306
25.RN's are involved in the internal governance of the hospital (e.g., practice and policy committees)	.579			.322	
23.Management that listens and responds to employee concerns	.478	-.287			
10.A nurse manager who is a good manager and leader	.471				.454
22.A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician	.461				
14.Praise and recognition for a job well done	.458	-.356			
24.An active quality assurance program	.439			.261	
27.A preceptor program for newly hired nurses	.305			.302	.276
<b>COLLEGIAL NURSE-PHYSICIAN RELATIONS</b>					
2.Physicians and nurses have good working relationships		-.860			
21.Physicians respect nurses as professionals		-.834			
7.Physicians value nurses' observations and judgments		-.807			
13.Physicians recognise nurses' contributions to patient care		-.793			
17.A lot of teamwork between nurses and physicians		-.791			
26.Collaboration between nurses and physicians		-.756			
30.Physicians hold nurses in high esteem		-.751			
<b>STAFFING AND RESOURCE ADEQUACY</b>					
9.Enough RN's on staff to provide quality patient care			.776		
12.Enough staff to get the work done			.735		
20.Working with nurses who are clinically competent			.675		
1.Adequate support services allow me to spend time with my patients	.264		.529		
8.Enough time and opportunity to discuss patient care problems with other nurses			.422		
3.A supervisory staff that is supportive of nurses	.357		.416	-.323	
11.A CNO who is highly visible and accessible to staff	.264		.301		
<b>NURSE PARTICIPATION IN HOSPITAL AFFAIRS</b>					
31.Written, up-to-date care plans for all patients			.328	.664	
32.Patient care assignments that foster continuity of care (i.e. the same nurse cares for the patient from one day to the next)				.527	
29.RN's have the opportunity to serve on hospital and nursing committees	.382		-.257	.467	
<b>NURSING FOUNDATIONS FOR QUALITY OF CARE</b>					
15.High standards of nursing care are expected by the management					.718
28.Nursing care is based on a nursing rather than medical model				.316	.451
19.A clear philosophy that pervades the patient care environment	.332		.251		.413
16.A CNO is equal in power and authority to other top level hospital executives		-.262			.288

Extraction method: Principal component analysis, Rotation method: Oblimin with Kaiser Normalisation  
 RN: Registered Nurse, CNO: Chief Nursing Officer.

The items were grouped into the five original subscales namely, *Nurse Manager Ability, Leadership and Support* (11 items), *Collegial Nurse-Physician Relations* (7 items), *Staffing and Resource Adequacy* (7 items), *Nurse Participation in Hospital Affairs* (3 items) and *Nursing Foundations for Quality of Care* (4 items). The factorial structure was very similar to the original factorial structure of the PES-NWI. Some of the items did, however, merge into other subscales when compared with the original PES-NWI subscales. The original items for *Collegial Nurse-Physician Relations* (the original 3-items and the additional 4 items) were located on the same subscale. Some of the original items of *Nurse Manager Ability, Leadership and Support, Staffing and Resource Adequacy, Nursing Participation in Hospital Affairs* and *Nursing Foundations for Quality of Care* were differently located on the factors of the 32-item scale used in this study.

Lake (2002) reports that mean values above 2.5 indicate general agreement, whilst mean values below 2.5 indicate disagreement with the characteristics measured by the PES-NWI. The mean values for four of the five subscales items measured above 2.5 and included: *Nurse Participation in Hospital Affairs* (mean score 2.59), *Collegial Nurse-Physician Relations* (mean score 2.54), *Nurse Manager Ability, Leadership and Support* (mean score 2.81) and *Nursing Foundations for Quality of Care* (mean score 2.67). Only one scale (*Staffing and Resource Adequacy*) had a mean score below 2.5 (mean score 2.34), indicating that the requisite feature for this subscale were not present in the critical care nurses' current practice environment (refer to table 3.10).

These results therefore imply that critical care nurses are dissatisfied with the amount of staffing and resources in their units to provide quality patient care. This result is consistent with the findings from several other studies (Aiken *et al.*, 2002; Lake, 2002, Chiang & Lin, 2008: 923). In a study conducted by Bruyneel, Van den Heede, Diya, Aiken and Sermeus (2009:208) on Belgian nurses' perceptions of staffing and resource adequacy the authors concluded that the nurses' perceptions was negative and that the factor *Staffing and Resource Adequacy* was a main predictor of burnout. These findings may be useful for future policymaking, including forecasting personnel needs in the field of nursing (Bruyneel *et al.*, 2009:208).

Table 3.10: Baseline mean subscale score for the PES-NWI

Subscale	No of items	Total sample mean (S.D.)
<b><i>Nurse Participation in Hospital Affairs (n = 294)</i></b>	3	2.59 (0.68)
<b><i>Nursing Foundations for Quality of Care (n = 295)</i></b>	4	2.67 (0.61)
<b><i>Nursing Manager Ability, Leadership and Support of Nurses (n = 294)</i></b>	11	2.81 (0.58)
<b><i>Staffing and Resource Adequacy (n = 294)</i></b>	7	2.34 (0.71)
<b><i>Collegial Nurse-Physician Relations (n = 295)</i></b>	7	2.54 (0.72)

The second lowest was the *Collegial Nurse-Physician Relations* subscale with a score of 2.54. The subscale *Nurse Manager Ability, Leadership and Support* had the highest mean score (2.81) indicating that nurses agreed that senior nurse managers provided an environment that supported and recognised the achievements of nursing staff and demonstrated quality leadership.

### 3.3 RIGOUR

Rigour refers to the umbrella term used when describing the strategies that a researcher adheres to in ensuring the generation of valid and scientific knowledge (Klopper & Knobloch, 2009). The PES-NWI was used as a measuring instrument to collect data relevant for the generation of scientific and valid knowledge. According to Nunnally and Bernstein (1994:3), measurement 'consists of rules for assigning numbers to objects so as to represent quantities or attributes numerically.' Measurements can therefore be considered one of the best means in creating objective scientific knowledge. In creating valid and scientific knowledge it is important to use measuring instruments that have acceptable levels of reliability and validity (de Vos *et al.*, 2005:160).

The following paragraphs will discuss the evidence of credible measurements in the psychometric examinations of the validity and reliability of the instrument used in the study.

### 3.3.1 Validity

De Vos *et al.* (2005:160) define validity as the extent to which the instrument accurately reflects the concept it is suppose to measure. In other words, validity asks:

- i. What does the instrument appear to measure? This refers to the **face validity** of the instrument, meaning that it not only accurately measures the attributes under consideration, but also appears to be a relevant measure of those attributes (de Vos *et al.*, 2005:161). The checklist used to describe the demographic profile was reviewed by two colleagues regarded as experts in the field of critical care nursing and research for face validity. Both confirmed that the variables included were relevant measures in describing the profile of the units in the sample.
- ii. How well does the instrument measure what it is suppose to measure? This is also known as **content validity**. Although the terms content validity and face validity are often used interchangeably in research, de Vos *et al.* (2005:161) concluded that content validity is established on the basis of judgement, that is, the researchers or experts are of opinion that the instrument covers the full range of meanings of the variable being measured. In the development of the PES-NWI, Lake (2002:179) calculated the mean scores for each of the subscales to prepare for validity and reliability testing. The five subscales derived provided a profile of the key domains in the practice environment of nurses in the original 'Magnet' hospitals. Four of the domains matched core questions asked during the original 'Magnet' research, suggesting that the instrument had good content validity. This indicated that aspects of the practice environment considered important by the 'Magnet' hospital researchers was were adequately in the PES-NWI (Lake, 2002:184).
- iii. How well does the instrument compare with one or more external criteria purporting to measure the same thing? This is also referred to as **criterion validity**. According to de Vos *et al.* (2005:160), criterion validity provides more objective evidence of validity. It is established through multiple measurements and comparisons of the scores, with an external criterion believed to measure the phenomenon under investigation. When the scores for the PES-NWI were compared between 'Magnet' and non-'Magnet' hospitals, the scores from the 'Magnet' hospitals proved significantly higher.

- iv. What does the instrument measure and why does it operate in this manner? This is also known as **construct validity**. Construct validity is concerned with the meaning of the instrument and involves determining the degree to which the instrument measures the theoretical construct (de Vos *et al.*, 2005:162). To determine the construct validity of the subscales as measures of the practice environment, Lake (2002:180) compared the scores of nurses in 'Magnet' hospitals to those in the non-'Magnet' sample. With this known-group approach, Lake (2002:180) hypothesised that nurses in 'Magnet' hospitals would have significantly higher scores on all measures than nurses in non-'Magnet' hospitals. The construct validity of the instrument was supported by the significantly higher mean scores of nurses in 'Magnet' hospitals when compared to those of nurses in non-'Magnet' hospitals. It further suggested the instrument to be sensitive tool for detecting differences in nursing practice environments at hospital level.

Chiang and Lin (2008:922) established construct validity for the PES-NWI through an exploratory factor analysis, using a principal component analysis method with Varimax rotation.

### **3.3.2 Reliability**

Reliability is primarily concerned with how well an instrument measures what it is supposed to measure. Reliability therefore refers to the consistency of measurement, meaning that if the same variable is measured under the same conditions, the instrument will produce identical findings (de Vos *et al.*, 2005:163). Burns and Grove (2007:365) stated that reliability exists in degrees and is therefore indicated as a correlation coefficient. As such a correlation coefficient of 1.00 is indicative of perfect reliability whilst a coefficient of 0.00 indicates no reliability. The Cronbach's alpha coefficient is the most commonly used measure of reliability.

Reliability of the PES-NWI was demonstrated by instrument homogeneity. Internal consistency is a test of homogeneity which is determined by Cronbach's coefficients (Chiang & Lin, 2008: 921). The Cronbach's alphas for the subscales of the PES-NWI ranged between 0.71-0.83 and were considered satisfactory (Lake, 2002:920). Consistency was assessed by inter-item correlations of responses aggregated to hospital level. The reliability of the

hospital-level measures was quite robust, with average interitem correlations of 0.64-0.91 (Lake, 2002: 182).

The reliability of the subscales in this study was supported by Cronbach’s alphas ranging from 0.51 – 0.92 (see table 3.12). The subscales of *Nurse Participation in Hospital Affairs* and *Nursing Foundations for Quality of Care* had modest reliabilities with alpha values of 0.51 and 0.61 respectively. The reliabilities of the other three subscales were within acceptable ranges (Nunnally & Bernstein, 1994; Field, 2005). The corrected item-total correlations for the total scale ranged from 0.30-0.78, well within the range recommended by Clark and Watson (1995). The mean of the inter-item correlations ranged between 0.26 and 0.62.

Table 3.11: Reliability indices and means for the PES-NWI

Subscale	Number of items	Cronbach’s Alpha (n=298)	M (SD)
<i>Nurse Participation in Hospital Affairs</i>	3	0.51	2.59 (0.68)
<i>Nursing Foundations for Quality of Care</i>	4	0.61	2.67 (0.61)
<i>Nurse Manager Ability, Leadership and Support of Nurses</i>	11	0.88	2.81 (0.58)
<i>Staffing and Resource Adequacy</i>	7	0.82	2.34 (0.71)
<i>Collegial Nurse-Physician Relations</i>	7	0.92	2.54 0.72)

### 3.4 CONCLUSIONS RELATED TO THE CONTEXT

From the findings of the study and the subsequent review of the literature, I was able to conclude the following about the context in this research study. I present the conclusions on a macro-, meso-, and micro level.

#### 3.4.1 Macro level: External context

- There is an alarming shortage of nurses across both hospital sectors in South Africa with unacceptable professional nurse to patient ratios.

- There is a noticeable increase in the provision of tertiary and specialist healthcare services in the private hospital sector following the public healthcare sectors' shift from acute to primary healthcare.
- The private hospital sector is a busy industry that is highly dependent on nursing staff to ensure the success of their operations.
- The private hospital sector has an explicit doctor-centric approach that often leaves nurses feeling undervalued and unsupported by management.
- Nurses working in the private hospital sector are faced with an increase in occupancy rates and high bed turnover rates that subsequently increase the pressure of their work environment.

#### **3.4.2 Meso level: Organisational context**

- Critical care units depend entirely on adequate and appropriate infrastructure and human resources.
- Gauteng province has the highest number of critical care units and beds and, considering that the private hospital sector has the highest admission rate, the practice environment of nurses in this sector must be taxing.
- Considering the advances in medical technology and science, caring for the critically ill patient is a complex skill and requires specialist nurses.
- The current crisis in critical care units pertains not only to numbers, but also to a lack of knowledgeable staff.
- The low number of experienced nurses in critical care units coupled with staff shortages, lack of supervision and support, contribute to the occurrence of adverse events in these units.

#### **3.4.3 Micro level: Unit context**

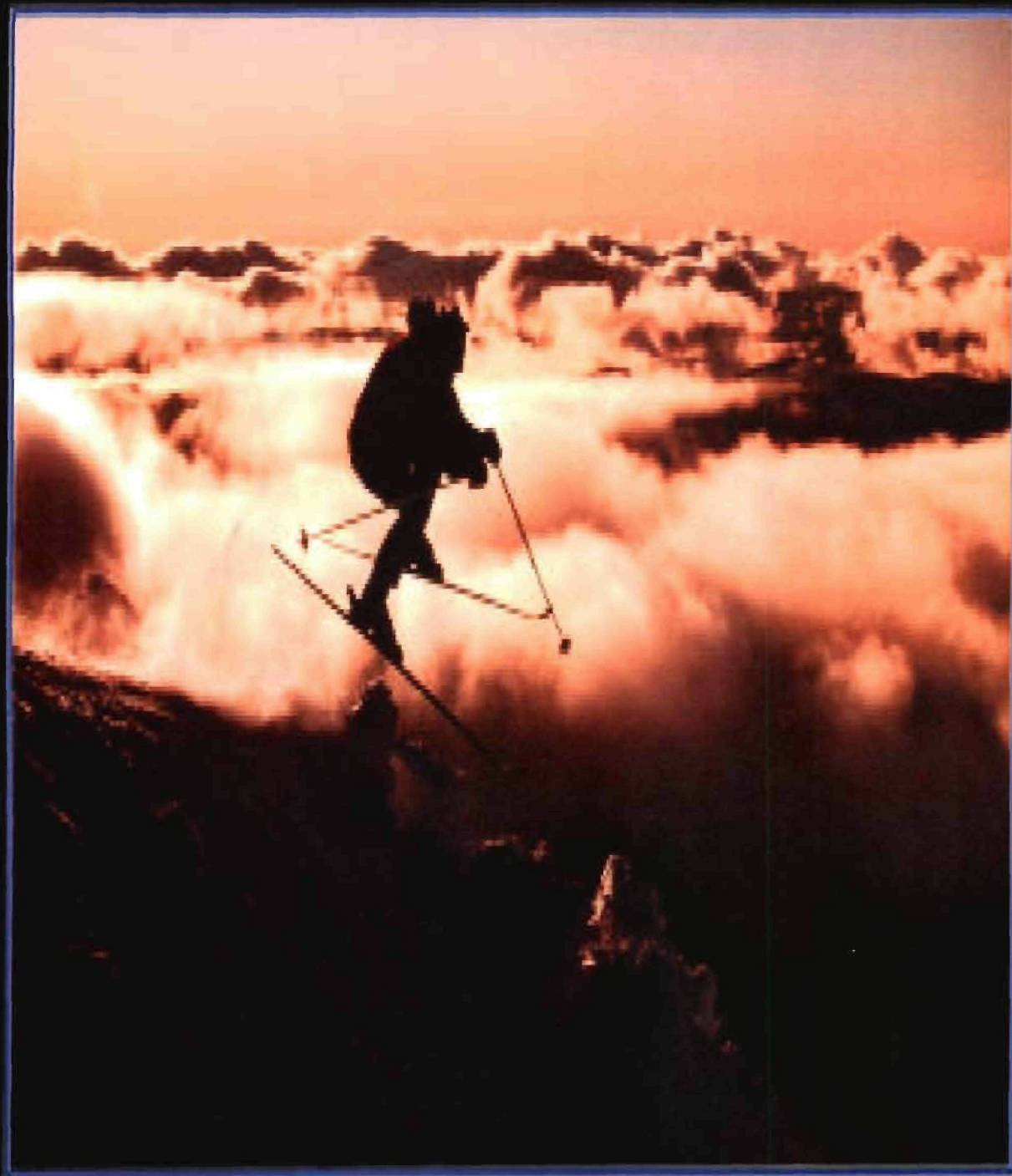
- Hospital managements' approach to resolving dilemmas of organisation and work directly impacts on the nursing practice environment.
- Negative practice environments are associated with job dissatisfaction, burnout, work-related injuries and high staff turnover rates.

- The practice environment of nurses working in private critical care units in Gauteng does not have enough staff and support resources in order to provide quality patient care.
- Nurses working in private critical care units in Gauteng are confronted with the challenges presented by an ageing nursing workforce and fewer qualified and experienced nurses.
- Nurses working in private critical care units in Gauteng agreed that nursing management provided an environment that supported and recognised their achievements and demonstrated quality leadership.
- Overworked and dissatisfied nurses working in a negative practice environment resulting in poor patient care contributed to the cyclic effect of acute nurse shortages.
- Staff shortages are directly related to negative practice environments and these shortages will not be resolved until the practice environment is addressed.

### **3.5 SUMMARY**

The acute shortages of nurses seem to result from a cyclic effect of overworked and dissatisfied nurses working in a negative practice environment that can result in less than optimal patient care (Middleton *et al.*, 2008:371). South Africa, like other countries across the globe, has been affected by these shortages.

The aim of this chapter was two-fold. Firstly, it provided the reader with an overview of the demographic characteristics of critical care units in the private hospital sector in Gauteng, and, secondly, it provided a description of the current practice environment of critical care nurses working in these facilities. The next chapter will provide a discussion of the theory components identified in the qualitative segment of the data analysis. These components will provide the foundation for the construction of the theory and the subsequent conceptual framework to follow in Chapter 5.



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## **CHAPTER 4**

# DETERMINING THE CONCEPTS AND CATEGORIES

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## **4.1 INTRODUCTION**

The purpose of this research study was to construct a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng. In Chapter 3, I provided the reader with a comprehensive overview of the context of the study and a description of the current practice environment of critical care nurses that participated in the study. In this Chapter, I will expound on the data about the perceptions of critical care nurses that were collected and analysed. The empirical evidence presented in this chapter, together with the conclusions deduced from the findings in Chapter 3, will in part provide the foundation from which the theory will be constructed. I start this chapter with an overview of the realisation of the data in discussing the research setting, population and sample, recruitment of the participants and their demographic characteristics. Next I move on to discuss the collection and analysis of the data, including the identification of the various concepts and related categories that arose out of the data by means of a coding process and memo-writing. I conclude the chapter with a discussion of the strategies employed to ensure the rigour of the findings for this segment of the study, and a set of conclusions derived from the findings of the analysis that will be used in the construction of the theory in Chapter 6 (refer to section 6.2.2.4.3).

## **4.2 REALISATION OF THE DATA**

As described previously in this study, a constructivist grounded theory (Charmaz, 2006) was the design selected to construct a conceptual ordering for the phenomenon positive practice environments in critical care units. According to Torres and Boshier (2009:59), a grounded theory design is often chosen to address a question for which no current theory exist, so as to create a substantive theory that will provide a general explanation of the phenomenon under study. They concluded that the explanation results from a description of the perceptions of those most knowledgeable about the phenomenon. To that end, a grounded theory method is often used when studying areas in which little previous research exist or when we want to acquire a new perspective in familiar areas of research (Burns & Grove, 2007:67). As such, a grounded theory proved the most suitable method to guide the inquiry at hand in constructing a substantive theory applicable to the critical care environment in the private hospital sector in South Africa.

According to Backman and Kyngäs (1999:147), a theory is composed of concepts and their mutual relationships with each other. In the second phase of the research study, concepts were identified through an inductive analysis of the data that involved a coding process and memo-writing. In this way, concepts that were identified were grounded in the data. The concepts were then named and grouped into more abstract categories based on their properties. Through a process of deduction, relationships between categories will be identified to provide the foundation for the theory that will be discussed in Chapter 6. In the paragraphs to follow I provide a discussion of the research setting, population and sample as well as the procedures for the recruitment of participants.

#### **4.2.1 Research Setting**

As described in earlier Chapters, it is important to note that the findings of a qualitative research study is contextually bound and not intended to be generalised (Holloway, 2005:275; Strauss & Corbin, 1990:96; Torres & Boshier, 2009). It is therefore important to describe the properties of the context in which the phenomenon is being studied, in order to comprehend the reality of the participants' experience (Holloway, 2005:275). The findings in Chapter 3 therefore provide the contextual grounding for the theory. Although I provided a detailed discussion of the research context in the previous chapter, here I present a concise overview of the research setting for the logical contextualisation of the data collected in phase 2.

The research setting for this phase of the study was critical care units located in two of the three major private hospital groups in South Africa, collectively employing approximately 741 critical care nurses. The geographical distribution of private hospitals indicated that the highest number of private hospital beds and most medical aid beneficiaries were based in Gauteng province (Matsebula & Willie, 2007:163). Of the 67 private hospitals located in Gauteng, only 17 were reported not to have critical care facilities (Scribante & Bhagwanjee, 2007c:1322). With a reported admission rate of 63% and a national deficit of close to 8 000 critical care nurses in South Africa, nurses working in these units report on the dichotomous nightmare of their work environment (Scribante & Bhagwanjee, 2007b:1318) describing their intra-personal experiences as positive (passionate), but their inter-personal experiences as very negative (nightmare).

The majority of the hospitals were located in middle- to high-income suburbs. Of the 31 units that participated in the study, 23 (74%) were located in hospital group A and 8 (26%) in hospital group B. The majority of the 31 units included in this research study operated as multi-disciplinary units with an average size of close to 13 beds per unit. The units had a mean bed occupancy rate of 68%. Approximately 8 nurses working in each of these units had an additional qualification in critical care nursing (trained as critical care nurses), and approximately 9 nurses per unit only had experience in critical care nursing. Only 23.5% of all critical nurses who participated in this study were educated at a baccalaureate level in nursing. The units had a reported staff turnover rate of 11.2% and an absenteeism rate of 7.74%. Nurses working in these units were predominantly female with a mean age of 41.29 years. Approximately 24.8% of the nurses indicated that they were dissatisfied with nursing as a career choice.

#### **4.2.2 Population and sample**

As discussed in chapter 2, section 2.4.3.2, the target population for this phase of the study included all the professional nurses working in the critical care units of the private hospital groups in Gauteng. The nurses had to be registered with the South African Nursing Council as trained critical care nurses, or with experience in critical care nursing of more than one year. The nurses further had to be proficient in either Afrikaans or English, as these were the two languages in which I was able to conduct the interviews. At the outset of the interviews I was concerned that the use of two languages might cause difficulties in coding the data into coherent categories. Charmaz (2006:46), however, argues that we know the empirical world through our use of language, and I therefore selected to provide the participants with the opportunity to explain the phenomenon under investigation, in a language they felt comfortable using and that reflected their views and values. Codes derived from the Afrikaans interviews were translated into English, and the meanings verified to be a true reflection of the perspectives of the participants. A sample of six (n=6) professional nurses that met the inclusion criteria were selected purposively to participate in step 4 of the research process for this study. The sample size proved sufficient when the data analysis indicated the saturation of the categories, with no new categories emerging. Following the analysis and coding of an initial interview, I started to employ theoretical

sampling to collect data relevant to the refinement and description of the emerging categories.

#### **4.2.3 Recruitment of participants**

Participants for this segment of the study were recruited from the critical care units by means of a written invitation that was attached to the questionnaire handed out during step 2 of the research process. The invitation was attached as a separate page to the questionnaire, and the participants were requested to provide their name and contact details on the invitation if they were willing to participate in an individual interview concerning their practice environment. The invitations were collected separately from the completed questionnaire to ensure the anonymity of the participants and protect the confidentiality of their responses. The collection of data across 31 critical care units allowed for variation in the types and sizes of the practice environments. Six nurses were purposively selected from six different hospitals to participate in the intensive interviews.

#### **4.2.4 Sample characteristics**

Demographic information was documented at the end of the interview using a written sheet and not on the audio recording. This was done to ensure the anonymity of the participants. The sheet was attached to a package that was compiled for each of the interviews that included the following documents:

- A blank page for the recording of field notes (attached as Annexure K). I included a space for the participant code and the date of the interview to link the field notes to their relevant interviews.
- The interview guide (attached as Annexure E); and
- The informed consent document (attached as Annexure I).

The demographic characteristics of the six nurses in the sample are presented in Table 4.1. The demographic profile of the critical care nurses confirmed the empirical evidence presented in Chapter 3 in that:

- Critical care nursing is predominantly a female profession.
- The age of the nurses illustrated the ageing population in critical care units.
- Most of the nurses working in these units did not have a university nursing degree; and
- Most of the nurses worked in a multi-disciplinary unit.

Table 4.1: Demographic characteristics of the participants

PARTICIPANT NUMBER	AGE	GENDER	MARITAL STATUS	HIGHEST LEVEL OF EDUCATION	CRITICAL CARE TRAINING	YEARS IN CRITICAL CARE	TYPE OF UNIT
# 1	40	Female	Divorced	Diploma	Trained	>20 years	Multi
# 2	52	Female	Married	Degree	Trained	>20 years	Multi
# 3	51	Female	Married	Diploma	Trained	>20 years	Multi
# 4	48	Female	Married	Diploma	Experienced	10-20 years	Multi
# 5	42	Female	Married	Diploma	Trained	10-20 years	Multi
# 6	27	Female	Married	Diploma	Experienced	<5 years	Medical

### 4.3 DATA COLLECTION

As outlined in Chapter 2, data collection for this segment of the study was presented as step 3 of phase 2, addressing the third objective of the study. Intensive interviews (Charmaz, 2006) served as the principal strategy to explore the perceptions of critical care nurses regarding the elements of a positive practice environment in order to construct new meaning. The use of individual interviews allowed me the opportunity to engage with the data – both in the collection and analysis thereof (Charmaz, 2006:25). Kvale (1996:xvii) supports the subjective approach of the individual interview and concludes that the outcome of such an interview represents the product of new meaning created by both the interviewer and the interviewee. In light of my role during the research process (section 2.4.3.1 of Chapter 2) and in accordance with my subjectivist epistemological stance, I selected to conduct the interviews myself. My direct involvement in every step of the data collection and analysis process not only ensured better analytical control of the data, but also the collection of data that was rich and full of detail. This also contributed to the

credibility of the study as Lincoln and Guba (1985) stated that the prolonged engagement of the researcher adds to the trustworthiness of the findings (Klopper & Knobloch, 2009).

A total of six digitally recorded face-to-face interviews were conducted with nurses working in critical care units. An additional interview serving as a consensus discussion was conducted with an earlier participant. The participant was selected based on her communication clarity during the first set of interviews. Information relevant to the results of the consensus discussion will be presented in Chapter 6.

My goal during the first interviews was to explore and describe the perceptions of critical care nurses regarding the elements of a positive practice environment. I used an interview guide with a set of initial open-ended questions that was derived in part from the literature and the research question to guide my exploration (refer to Annexure E). The questions included in the interview schedule were intentionally open-ended to elicit thick and rich descriptions from the participants, accounting for the possibility of alternative themes emerging that had not been anticipated during the design of the study or the initial coding. This is known as theoretical sensitivity (refer to section 2.4.3.1 of Chapter 2) and theoretical sampling (refer to section 2.4.4.3 of Chapter 2), both essential elements in the grounded theory process.

Any subsequent questions and further probing during the interviews depended on the participants' responses, and was aimed at clarifying or further describing concepts in order to identify the properties of the categories. The interview guide also ensured that I asked participants the same questions in virtually the same manner. This limited bias and assisted me in the constant comparison of the data during the analysis. Not all the questions listed on the interview guide were always used. A list of topics that had to be addressed prior to the conduction of the interview was also included in the guide to ensure that I did not leave out any important information. The items included were:

- Introduction and welcome.
- Information pertaining to the background and rationale of the study.
- The use of the findings.

- Information on the informed consent document and the process of obtaining verbal consent prior to the interview; and
- The role of the participant in the study.

Before conducting the first interview, I consulted with an expert in qualitative interview techniques. This was done to review the set of initial open-ended questions that would be asked to explore the phenomenon, and to practise interview techniques, such as probing, that are used during qualitative data collection. The expert reviewed and adapted my interview schedule and allowed me the opportunity to practise interview techniques. The first interview was scheduled as a pilot interview to practise conducting an interview, test the relevance of the questions on the interview guide and to monitor the quality of the digital recording. The transcribed interview was reviewed with the assistance of the expert and as it demonstrated the adequacy of the initial questions to obtain relevant data, the data collected from this interview was therefore included in the analysis.

In collecting data during interviews and during the transcription of the data, Glaser (1992) strongly advises against the use of tape recordings stating that recordings might cause participants to be more careful about what they say. Charmaz (2006:32), on the other hand, encourages the use of tape recordings, arguing that it allows the researcher to fully engage with the participant during the interview and provides detailed data after the interview. In this study, a tape recorder was used for the individual interviews and in transcribing the interviews. The recordings and transcriptions allowed me the opportunity to fully engage in both the collection and the analysis of the data. The verbatim transcriptions also ensured an accurate account of the data. Recording the data contributed to my comfort during the interview, not only by allowing me the opportunity to pay careful attention to what the participants were saying and consequently formulating responses to further explore certain concepts, but also knowing that the data would be available to listen to and review as often times as required to code and identify categories. The audio recordings during the interviews did not seem to bother or influence the responses of any of the participants. The non-verbal communication, posture and speech tone of each of the participants indicated a high degree of comfort in discussing the phenomenon under investigation.

To prevent the possible delay in the process of theoretical sampling caused by taping and transcribing interviews, I appointed a professional transcriptionist to transcribe the interviews verbatim. The standard turn-around time was usually 1 to 2 days for each interview, allowing me adequate time for the initial open coding and subsequent theoretical sampling. A general template for the typing of the interviews was developed to ensure that the transcripts were received in a similar format (refer to Annexure J). A space for the participant code and the date of the interview was indicated on each page. Each transcript was typed one and a half spaced with double spacing between the speakers (myself and the participant). I also set a margin of 10 centimetres on the right-hand side of the page for coding purposes. Finally, I numbered each line in the interview for easy referencing. Upon receipt of the transcripts I simultaneously listened to and reviewed each of the interviews for an accurate transcription. The data were also edited to remove any identifying information such as names, hospitals and locations. Although this process is deemed time consuming by Glaser (1992), it ensured a high level of familiarity with the data and enhanced my preliminary coding and analysis. Field notes for each of the interviews were compiled immediately after the interview noting the participants' non-verbal communication, posture, speech tone and any other noteworthy changes or episodes (refer to Annexure K).

All of the interviews were conducted in a quiet and private location situated in the hospitals where the participants worked. Following the telephonic confirmation of the participants' willingness and availability to conduct an interview, the logistics of organising a venue depended on each hospital's policy. I followed one of two routes in arranging for a room in the hospital: either with the unit manager of the critical care unit or the secretary of the nursing service manager. The date, time and location were then sent via text message to the nurse participants. I conducted a total of six interviews of which three occurred in hospital group A and three in hospital group B (refer to section 3.2.3.2.4 of Chapter 3). The interviews were conducted in person and recorded using two digital voice recorders (one of the recorders served as a back-up). Two of the interviews were temporarily interrupted, one by a cleaning lady initially ignoring my request that she leave the room, and the other from a phone call that the nurse had to take. These interruptions did not hamper the flow

of the interview as the participants were able to easily pick up the conversation. None of the interviews lasted the projected 60 minutes.

Having worked in CCUs in the private hospital sector for approximately eight years, I consistently attempted to “bracket” my prior knowledge and experience regarding the phenomenon under study. I documented my personal thoughts and feelings in writing personal memos and used these as references during the analysis process. The memos assisted me in identifying any previous knowledge that could hinder my ability to focus on the data at hand. Data collection commenced in May 2009 and concluded in September 2009. The final description and discussion of the results were completed in October 2009.

#### **4.4 DATA ANALYSIS**

The analysis of the data is both an art and a science reflective of the interplay between the researcher and the data (Strauss & Corbin, 1998:13). The science of the method stems from the researchers’ ability to maintain rigour and by grounding the analysis in the data. The art of a grounded theory can be found in the researchers’ ability to name the categories, ask stimulating questions, make comparisons and construct a theory from the mass of unorganised data (Strauss & Corbin, 1998:13).

As described in section 2.4.4.2 of Chapter 2, coding represents the first analytical turn in the data (Charmaz, 2006:42). The interview texts for this research study were analysed and coded following the standard protocol for grounded theory research as described by Strauss and Corbin (1998) and Charmaz (2006) in Chapter 2 of the study. This coding process consisted of three phases: open coding, axial coding and selective coding. A constant comparative method was used during each of the three coding phases to integrate the ideas of the participants. Data analysis occurred concurrently with the other steps in the grounded theory process (steps 4, 5 and 6 of Figure 2.2, Chapter 2), implying that the initial open coding started as soon as I collected the data from the first interview.

In analysing the transcribed interviews in a line-by-line fashion (refer to section 2.4.4.2 of Chapter 2), certain concepts started to emerge, representing the thoughts of the

participants. My coding was done from the perspective of the participants and I used their words as codes (known as *in vivo* codes). Based on the views of symbolic interactionism, the codes used fitted the data and provided the participants' description (emic perspective) of what was happening in the data. The codes were then compared and, based on their similarities and differences, grouped into more abstract categories. The names of the categories resulted from my interpretation of the data and the language of the participants.

The coding of the interviews and the subsequent constant comparison of the data first within interviews and then between interviews continued until one core category emerged. The core category can be described as the one that pulls the other categories together to form an explanatory whole, thus giving the core category analytical power (Strauss & Corbin, 1998:146). In light of the interwoven nature of a grounded theory method, open-, axial- and selective coding do not appear as sequential acts during the analysis of the data. To that end the discussion of the data analysis will not be presented as steps that occurred in a chronological order, but rather as it unfolded during the research.

#### **4.4.1 Presenting the microanalysis of the data**

Strauss and Corbin's (1998:57-58) approach to analysis presents a microscopic examination of data that is not structured, static nor rigid in nature. I embarked on the journey of open coding by examining the transcribed text and listening to the audio recordings. The transcription of the interviews and the opportunity to listen to the interviews repeatedly ensured a high level of familiarity with the interview text and enhanced the coding and analysis process.

The interviews were first analysed and coded independently and then compared with other interviews. Open coding was done in a line-by-line fashion as suggested by several authors of grounded theory (Strauss & Corbin, 1998; Charmaz, 2006). This microanalysis of the data allowed me to focus on each bit of data asking the questions: "What is this an indicator of?" and "What is the data suggesting?". Using the participants' own words, or *in vivo* codes (Charmaz, 2006:57) to name the concepts that emerged from the data, I was able to generate numerous concepts representing what was happening in the data. I noted the concepts identified in the margin provided on each of the interview transcripts. The

concepts identified in each of the interviews were subsequently numbered and transferred to a separate page. The numbering was done in a chronological fashion to identify the number of codes that emerged out of each interview. This set of preliminary codes was kept in the individual files that I held for each of the interviews. The line-by-line analysis of the first interview resulted in the generation of 79 codes. The second interview yielded a total of 102 codes, indicating the value of theoretical sampling to further explore interesting concepts that emerged during the first interview. In table 4.2, I present the number of codes derived from each interview.

Table 4.2: Number of codes derived from the individual interviews

<b>INTERVIEW NUMBER</b>	<b>NUMBER OF CODES DEVELOPED FROM OPEN CODING</b>
<b>Interview # 1</b>	79 codes
<b>Interview # 2</b>	102 codes
<b>Interview # 3</b>	153 codes
<b>Interview # 4</b>	47 codes
<b>Interview # 5</b>	51 codes
<b>Interview # 6</b>	25 codes
<b>n=6</b>	<b>457 codes</b>

The process was repeated for each of the six interviews, resulting in the identification of 457 codes in total. From the figures presented in Table 4.2 it is clear that the number of codes generated from the last three interviews showed a steady decline. This can be attributed to the fact that the first three interviews shared a commonality in the identification of concepts to a greater or lesser extent. The interviews that followed were used to further explore and clarify the properties of the categories as they emerged from the first three interviews, resulting in very focused data collection.

Next, I read through the pages of preliminary codes compiled for each of the interviews to begin the process of identifying words and phrases that occurred frequently across the interviews. Whilst reading through the codes, I colour-coded concepts that seemed to fit together, and made notes on any interesting ideas that occurred to me at the time. Using a computer software programme, Mindjet® MindManager® Pro 7 (2009), I started to group concepts considered to be similar in nature together. Concepts recurring throughout the interviews were not mentioned repeatedly in the mind map diagram; instead I noted the

concept and notes related to it in the memos generated during this stage of the analysis. The groups of concepts were then assigned to a more abstract and explanatory term known as a category (Strauss & Corbin, 1998:114). For example, a *closed unit* and a *single physician approach* were two of the many codes that I took from the participants' words. I grouped codes such as these together under *type of unit* as one of the subcategories to expound on the category *Environment build with nurses in mind*.

The names assigned to the preliminary categories were based in part on my conceptual interpretation of the data, as well as the participants' subjective understanding of the phenomenon under investigation. The grouping of the concepts into categories significantly reduced the amount of data with which I had to work. Figure 4.1 provides a visual example of one of the collapsed maps that I constructed in describing the initial categories that emerged from the interviews. As evident from the figure, a total of 15 initial categories emanated from the concepts identified at that stage.



Figure 4.1: Collapsed map of initial categories

Each of the preliminary categories were conceptualised from the grouping of codes that seemed similar in nature. Figure 4.2 provides a visual overview of the initial grouping of the codes that delineated the preliminary categories.

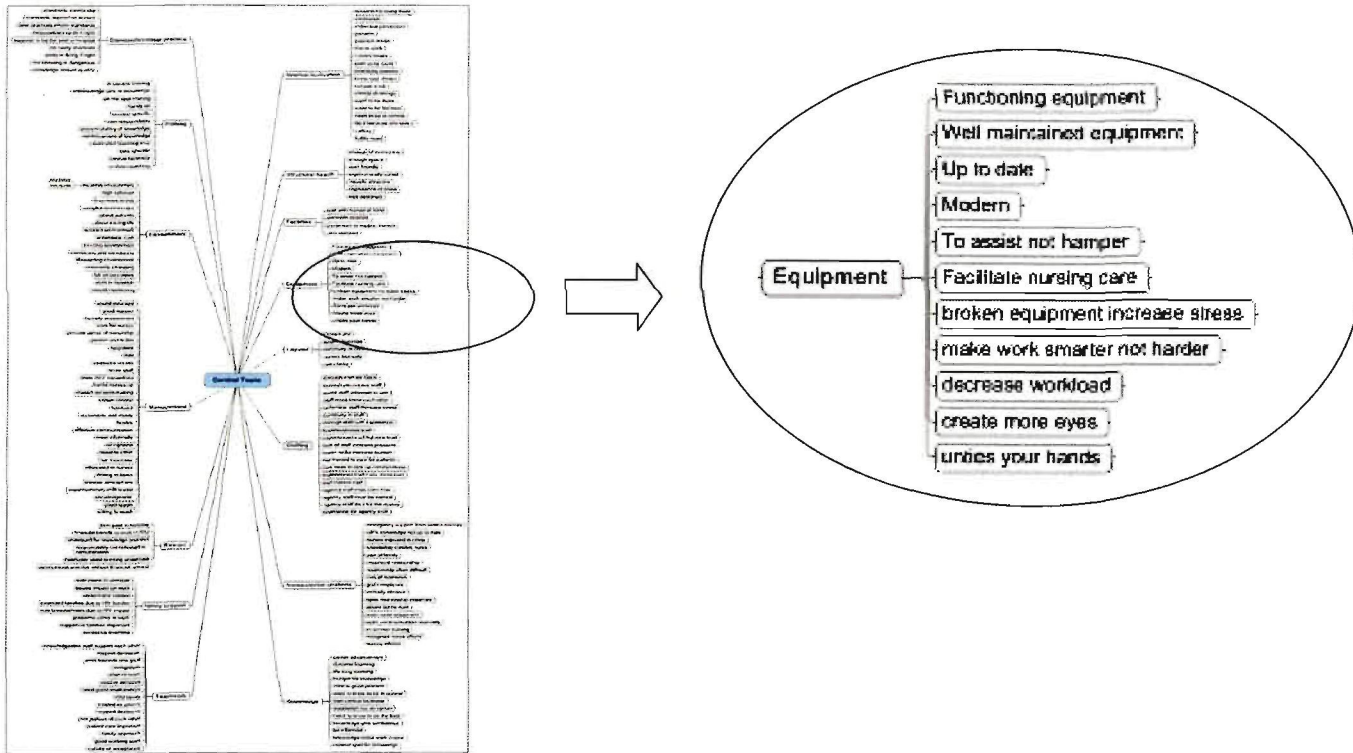


Figure 4.2: Map with a complete view of the initial categories

I used the categories to sift through the data in order to develop the properties and dimensions of the emerging categories. I was also able to identify several subcategories under some of the categories, which further specified the categories denoting information as to when, why and how the phenomenon occurred (Strauss & Corbin, 1998:119). For example, categories such as *unknown passion* and *paid profession* were subsumed under a higher and more abstract category named *professional identity*.

As alluded to in section 2.4.4.3 in Chapter 2, theoretical sampling represents a type of sampling characteristic of the grounded theory method. With theoretical sampling the aim is to collect data that will address any gaps pertaining to the development of categories and their properties (Charmaz, 2006:189). As such the researcher does not sample randomly or for representativeness, but rather to clarify and define the boundaries and relevance of

categories (Charmaz, 2006:189). Theoretical sampling pertains to any number of sources, such as additional interviews and related literature. True to the emergent nature of a grounded theory, I included additional probes towards the end of some of the interviews to further investigate and clarify concepts that emerged from earlier data. Theoretical sampling of the literature was undertaken once the categories were sufficiently developed. The integration of the literature at this stage provided supporting data for the emerging theory. A thorough review of the literature pertaining to the concept of a positive practice environment was only undertaken after the analysis of the data from phase 2 of the research process and is presented in Chapter 5.

In this research study theoretical sampling kept data collection to a minimum and ensured the focused collection of data aimed at saturating the categories and their properties. For example, questions arising from the first interview shaped the approach taken in the second interview. In particular, a question arose in the first interview about whether nurses' internal motivations contributed to a positive practice environment. Therefore I included a question in the second interview that specifically explored whether or not what I thought to be intrapersonal motivation contributed to the phenomenon under investigation (the concept intrapersonal motivation later became part of the category *professional identity*). Theoretical sampling continued until no new categories emerged. According to Glaser and Strauss (1967), theoretical saturation in grounded theory commonly occurs after 5-10 interviews. Saturation of the categories in this research study occurred after 6 interviews.

#### **4.4.2 Discussion of the categories**

I spent a lot of time considering how to present the categories that emanated from the data, especially in terms of providing enough detail to facilitate a coherent understanding of the theory that will follow in Chapter 6. Coding in grounded theory does not occur in a linear fashion and although axial coding requires the existence of some categories, my sense of how the categories might relate emerged early during the open coding of the data. I reassembled the data that was disbanded during the first round of analysis by comparing the initial 15 categories and collapsing some of the categories to make more abstract categories. For example, the categories *appropriate training*, *standards of care*, *clinical knowledge* and *skills* became the subcategories of *a solid knowledge base*. In the constant

comparison of the data a further subcategory named *professional advancement* was also subsumed under this major category. I continued this process until only seven major categories remained. I also had a consensus discussion with the co-coder of the data at this stage. During the discussion we compared the concepts identified and the preliminary grouping of these concepts into categories. The co-coder agreed with my classification of the concepts and concluded that no new categories seemed to emerge from the data, thereby confirming saturation of the data.

I was faced with a challenge in presenting a non-linear grounded theory in linear fashion. Being so embedded in the data clouded my thoughts and I needed a new perspective on my approach. In an attempt to clarify my thoughts I reviewed several completed grounded theories to find a way to best present the data from this study. I also had a discussion with the promoter of the study on how to move forward at this stage. Following our discussion I decided to proceed in a way that will best reflect the way in which the theory was constructed – from the ground up. In order to do that, I now move on to discuss the empirical (included as excerpts from the interviews) and supporting evidence that I used in developing the categories for this phase of the study. The attributes for each of the categories are printed in italics. The code appearing at the end of the excerpt, for example, I/3:5:56, refers to interview number (3) followed by the page number of the transcript (5) and the line number from where the excerpt was drawn (56). I close this chapter with a set of conclusions that will be used to inform the construction of the theory in Chapter 6.

#### **4.4.2.1 Category 1: Professional identity**

Professional identity emerged as a category from the realisation that two “lower order” categories, namely *unknown passion* and *paid profession*, could be subsumed as the properties of this more abstract category. Critical care nurses working in the critical care environment for the right reasons had a positive attitude towards their practice environment and subsequently tended to look past the negative elements more easily. The properties of this category illustrate the two major reasons why nurses work in critical care units. An *unknown passion* emerged as a motivation that positively contributed to the practice environment of the participants as illustrated by the following excerpts:

“...my **passion**. It is what I want to do...it just, you just **want to be there...**”

(I/1:4:100,102)

“You have to do it because you actually genuinely **want to do it...fulfills a need** in the nurses: we are all **control freaks**” (I/2:3,4:84,144)

“**Firstly, it is a calling...if it is really in your heart you tend to look past the negative**

The subcategory *unknown passion* contained the codes *born to be a critical care nurse, calling, driven by passion, fulfils need for control, want to be there, living your dream, practice your passion and do it because you love it.*

The *paid profession subcategory* alluded to nurses having the wrong reasons for working in the critical care environment and illustrated the dimensions of *professional identity* as a category. Participants explained the wrong reasons as:

“working in ICU is **not about the money** or conditions...” (I/6:2:39)

“if you just come to do your work and **earn your money...not worth much...**” (I/5:7:188)

“I want to **earn...they really do not love** what they are doing...everyone wants to go to ICU...it is **more paying...not going to stand the pressure** of working in ICU”

(I/4:10,11:298,299,38,309)

For the participants, nurses that are driven by money have little concern for the critical care unit. The attitude of these nurses seems to be the total opposite of nurses driven by *passion*, because instead of *live to work* they work to live. These nurses often do *not cope* with the *pressure* of the environment and subsequently carry a *negative attitude* that *adds* to the *burden* of the environment so contributing to a negative practice environment. Participants seemed to agree that when critical care nursing becomes *more than a job*, a way of earning an income, the nurse exhibit a *sense of pride* in your job. This results in “nurses doing things right all the time” (I/2:3:79) taking pride in her job and so contributing to the creation of a positive practice environment in the unit.

In addition, participants seemed to agree that nurses working in critical care units are often driven by the *need for control*. The significance of being “control freaks” (I/2:4:144) and working in the critical care environment to still that need was initially included as one of the

properties describing this category. As the study unfolded, I noticed that control was implied in several of the other categories also. I therefore decided to include control as a major category on its own (discussed as category 7, *being in control*).

Very little evidence to support the reasons nurses had to work in the critical care environment, and their influence on the practice environment of the nurse could be found. The literature that does exist focuses on the professional identity of the nurse and meaningful work. A report on positive practice environments by the International Council of Nurses (ICN, 2007a:5) mentions two considerations that merge when we examine positive practice environments, namely: (1) the nurses' professional identity and (2) the characteristics of the environment. Professional identity, according to Fagermoen (1997:435), refers to "the nurses' conception of what it means to be and act as a nurse; that it represents her/his philosophy of nursing". Fagermoen (1997:435) concluded that professional identity therefore serves as a basic frame of reference in the nurses' considerations and enactment. Professional identity not only guides the nurses' thinking, actions and interactions but also influences what she/he perceives as relevant problems, goals and approaches. Fagermoen (1997:435) thereby confirms the view of participants in this study when they concluded that one's reason for working in the critical care environment influenced one's perception of the environment, thereby contributing to one's discernment between a positive and a negative practice environment.

In a report on the transformation of the critical care environment through 'Magnet' nursing service recognition, the nursing leadership at the University of California Davis Medical Center noted that nurses did not seem to view their workplace as the environment where they practised, but rather the place where they were employed. The leadership addressed this issue by developing a nursing philosophy for the hospital that not only reflected the language of the nurses but also the reasons they had for working in the critical care environment. The philosophy reaffirmed the nurses' reasons for joining the profession and projected their passion, thus contributing to the meaningfulness of their work (Robinson, 2001:414). It is evident from the literature that when one's passion for the profession is related to one's reason for being there, nurses report on their work as meaningful, thus contributing to the creation of a positive practice environment.

#### 4.4.2.2 Category 2: Environment built with nurses in mind

An *environment built with nurses in mind* refers to the *structural features* and *attributes* of the *type of unit*. The naming of this category stems from a discussion with one of the participants regarding the meaning of the concept “structurally healthy” in relation to a positive practice environment. Several of the concepts that the participant used were also used by other participants. To this end I started to group codes that seemed to describe the structural environment of nurses. As I reflected and pondered on my grouping, I noticed that the concept “structurally healthy” was in reality rather a property of the *structural features* of an *environment built with nurses in mind*.

The *structural features* of the critical care environment were an important element of the practice environment of the critical care nurse. The properties of the *structural features* of the environment included: *ergonomically suited*, *physical layout* and *state of the art equipment*. An *ergonomically suited environment* provides nurses with a working space that make the execution of their tasks easier, as illustrated in the following excerpts:

“we are very cramped...” (I/3:4:137)

“beds too close...**difficult to work** in...improved attitude to their work...environment is so fabulous...” (I/2:2:45)

“jou eenheid moet ruim wees, jy moet spasie hê, jy moet nie sukkel om te beweeg nie...”

[unit must be **spacious** , you must have **space**, you must be able **to move freely**...]

(I/5:11:320)

The codes used to describe an *ergonomically suited environment* included concepts such as *user friendly*, *enough space*, *able to move freely*, *everything in the right place* and *enough of everything*. When an environment is *ergonomically suited* it awakes a sense of pride and ambition in nurses and contributes to a positive attitude in the practice environment. With everything in the right place and having enough of everything, nurses are able to better concentrate on the task at hand.

The *physical layout* of the environment was another important feature described to assist the nurse in the execution of her duties. A *physical layout* that allowed for the constant observation of the patient seemed to be the most important consideration. Participants

alluded to the fact that the *physical layout* of critical care units is often not done with staff in mind. A serious concern regarding the *physical layout* involved the location of restrooms and tearooms for nurses working in the critical care environment. Participants are often required to leave the unit to use restroom facilities, presenting a challenge in terms of monitoring the patient as illustrated in the following excerpts:

**“full on bed views...I want to see the patient, not just the monitor”** (I/3:4:126)

**“in the ideal world, we’d have our own toilet”** (I/3:4:140)

**“you just never got to go and empty your bladder...toilet so far away...you were too scared to leave your patient...far more well thought out design process”** (I/2:7:236)

The codes used under *physical layout* included: *central monitoring environment*, *full on bed views*, *view patient physically and clinically*, *facilities in unit*, *private restroom for nurses*, and *designed with nurses in mind*. Participants felt that the structural *layout* in the unit that provided for the central and continuous monitoring of patients, facilitated nursing care and contributed to the sense that the nurse was in control of the situation.

In a position statement on nurse-to-patient staffing ratios in critical care units, Pilcher and Odell (2000:39) reported on several studies that concluded that despite sophisticated monitoring equipment, the majority of incidents in critical care units were detected by direct observation as supposed to monitor detection. This provides supporting evidence for the physical layout of units that not only provide for central monitoring, but also full on bed views of patients.

*State of the art equipment* was another element included under the *structural features* of the critical care environment. Participants agreed that *functioning*, *modern* and *well maintained equipment* are essential elements of a positive practice environment. *State of the art equipment* allowed nurses to work smarter and not harder by untying nurses’ hands and not only increases surveillance of patients but also facilitate nursing care activities.

“initially I would say equipment that **works...up to date** equipment...then you are aware...if you are in **control**, you are aware” (I/3:14:553)

“equipment that would help us...**without hampering us**...something to **facilitate** nursing care” (I/3:15:580,587)

The absence of *modern, functioning and well maintained equipment* implies that nurses have fewer resources to monitor patients, resulting in increased stress levels and a sense of not being in control.

In selectively sampling the literature to establish what, if any, other research has found with regards to structural features of the critical care environment, a study conducted by Parson, Cornett and Burns (2005:201) indicated that the environment must be workable. The authors reported that nurses working in an emergency department indicated that a healthy environment is characterised by having enough space for state of the art equipment and to care for patients. The presence of what the authors referred to as “support space” – restrooms and break rooms – were considered an essential element of a workable and safe environment in emergency departments. Schmalenberg and Kramer (2008b:459) also recognised the value of a layout that allows constant observation of patients and that has a high level of rapidly developing technology, as among the elements linked to the creation of a healthy practice environment.

The other subcategory that was subsumed under an *environment built with nurses in mind* pertains to what I refer to as the *type of unit*. Critical care units known as *closed units* with *single physicians* in charge of the unit were shown to contribute to an *environment built with nurses in mind*. Participants reported that having a *uniform protocol* of care ensured *continuation of care* and *decreased the occurrence of role confusion*. In their study on the differences in nurses’ perceptions of work environments by type of intensive care unit, Schmalenberg and Kramer (2008b:459) noted the link between so-called “medical pervasiveness” and healthy work environments. According to the authors, “medical pervasiveness” refers to the relatively small number of physicians who are called into and who visit units frequently and for longer periods than other physicians, and they maintain that the regular presence of these physicians is one of the structural elements and

attributes associated with a healthy practice environment (referred to as a positive practice environment in this study).

Participants also reported that physicians working in closed critical care units have the *relevant qualifications* to care for critically ill patients. In units with an open approach, nurses often have to rely on the support provided by general practitioners *not trained* or not having the *necessary skill* to care for patients. Nurses reported feeling *exposed* in emergency situations. The *lack of support* left them feeling *unsafe*. Excerpts from interviews that allude to the attributes of the environment are provided in the following box:

“...if you have a **single physician**, it’s easier...you learn his ways...**know exactly** what he wants (I/3:2:69)”

“...GP who only kept up with **GP knowledge**...without sounding pompous...my ICU training probably put me in a **better stead**... (I/3:3:84)”

“verkies ‘n dokter wat ICU opgelei is...laat jou veilig voel...[prefer a **doctor** that is **trained** in critical care...feel **safe**] (I/5:5:131)

“...your job, my job...when we had a single physician working here, he saw the patient in their **entirety**...**whole patient** was his **job** as well as **ours**” (I/3:9:337)

An *environment built with nurses in mind* represents the epitome of what a critical care unit should be. An environment that is *ergonomically suited*, *structurally healthy* in terms of its *physical layout*, has *state of the art equipment* and the correct *attributes* in terms of the *type of unit*, positively contributes to the practice environment of the nurse. Such an environment awakes ambition in nurses, improves their attitude and contributes to their sense of pride. In a review on the literature on healthy work environments, Shirey (2006:258) concluded that healthy work environments must have the necessary infrastructures to create “sanctuaries of healing” that are beneficial for all caregivers. Healthy work environments therefore closely relate to nurses’ reasons for working in the critical care environment, indicating the relationship between the categories *professional identity* and *environment built with nurses in mind*.

An *environment built with nurses in mind* further contributed to the participants' feeling of being in control. When a critical care unit is well designed, with enough space, full on bed views, central monitoring devices, has modern and functioning equipment coupled with a closed unit approach and a uniform protocol, nurses tend to feel more in control and safer. The significance of control in relation to the environment and the subsequent influence thereof in creating a positive practice environment will be discussed under category 7.

#### 4.4.2.3 Category 3: Sound Management

The category *sound management* refers to the integral role that management played in the creation of a positive practice environment. In this category the participants distinguished between two levels of management: *management at unit level* and *management at hospital level*. Participants made a clear distinction in terms of the roles of management at the different levels. *Management at unit level* refers to the specific roles of the *unit manager* and the *shift leader* in creating a positive practice environment. Participants felt that the *unit manager determined the atmosphere* in the unit and was responsible for *creating a positive environment* for the nurses to work in. This was similar to what Shirey (2006:256) found. In a report on authentic leadership and healthy work environments, the author concluded that nurse managers play an integral role in creating a healthy work environment. *Accessibility* to the unit manager was considered to be important, as was *flexibility* in her schedule to meet with nursing staff. According to the American Nurses Credentialing Centre (2007), one of the attributes of the 'Magnet' hospitals – which exemplify excellence in the professional nursing environment – involves nursing leaders that are visible, accessible and committed to communicating effectively with staff. Another important factor related to the *unit manager* was that the participants expected him/her to *support* staff all the way:

“...amper 'n atmosfeer soort van skep in die eenheid” [like **create an atmosphere** in the unit] (I/6:3:92)

“...she comes in after 8 ..works until 4...night staff do not get to see her...make an appointment...makes herself a little bit more **accessible**...a unit manager who **backs you up** all the way, who **stands behind you**” (I/3:3,9:98,359)

The importance of being encouraged and supported by what Krogstad, Hofoss, Veenstra and Hjortdahl (2006) refer to as the “nearest leader”, highlights the nurses’ need to be seen and appreciated.

Unit managers are also expected to be *knowledgeable* not only in terms of the *administration* of the unit, but also in terms of *clinical skill and competence*. A unit manager can only *comprehend the context* of the environment if she is knowledgeable about the clinical situation. When the unit manager understands the context, she can provide the necessary *support* to the nurses.

“weet wat in jou omgewing aangaan...bekend met wat jy doen...as ek ‘n probleem het met my intropin... kan help” [**knows what is happening in your environment...familiar with what you do...when I have a problem with my intropin...can help**] (1/5:8:234)

A definition of authentic leaders by George (2003, quoted in Shirey, 2006:259) confirms the value of knowing the context: “those individuals who are deeply...aware of the context in which they operate...”. A Norwegian study on the predictors of job satisfaction among doctors, nurses and auxiliaries (Krogstad *et al.*, 2006) found that “the feeling that the nearest leader knows the work situation” was an important predictor of nurse job satisfaction.

The *shift leader* as manager also plays an important role in the creation of a positive practice environment. Working closely with staff for 12 hours of the day, participants felt that the *shift leader* must be *aware of every nurses’ capabilities* on the shift to ensure the *correct and fair assignment* of patient cases. She needs to be *sensitive* to the different *levels of knowledge and skill* of staff and have a *culture of acceptance*. Participants concluded that the shift leader must be *supernumerary* so that she can provide *support and on the spot training* to nurses on the floor. When the *shift leader* is assigned a patient case, the pressure of the environment makes it impossible for her to *support and teach* staff. Krogstad *et al.* (2006) concluded that the “headnurse” or in the case of this research study, the *shift leader* is among other things responsible for the local education and fostering of new nurses in the critical care unit.

“...day to day running of the unit you actually **know everybody’s capabilities**...ideal place would be **on the spot training**...”(I/3:2:55)

“...**accept** people that doesn’t have the **knowledge** that they’ve got...due to the **pressure** of work, you are **not prepared to teach**... (I/4:8:228)

“...shift leader is free, she can spend time...not so knowledgeable...I’m gonna help you here...” (I/3:12:484)

Parson *et al.* (2005:201) reported a similar finding in a study on a Healthy Emergency Department Workplace, showing that nurses working in these specialty units concluded that the charge nurse (in the case of my study, the *shift leader*) should not be “out of ratio”. This implied that the “charge nurse” must not be included in the staff count for patient assignments.

The most important aspects that emanated from the discussion regarding the contribution of *management at hospital level* in creating a positive practice environment were: *management at hospital level* must be *familiar* with the *context* of the critical care environment. Participants felt that if *management at hospital level* knew the *context*, they would better *understand the challenges* of nurses in these units. This was evident from a discussion regarding staff shortages – participants felt that if the nursing service manager was familiar with the *context*, she would know that sending an enrolled nurse (ENA) to assist with a new admission would only *add to the pressure* of the environment.

“...junior personnel...like enrolled nurses...have to **expunge** yourself to help those that are **not on par** with you...” (I/4:4:95).

“...dit help nie jy stuur ‘n ENA nie...” [does **not help** if you send an ENA] (I/5:6:156)

*Recognising* and *rewarding* nurse efforts were also considered important functions for *management at hospital level*. According to the participants, *recognising and rewarding* nurse efforts makes nurses feel *valued* and *important*, providing them with a *sense of ownership* and making them *feel at home*.

“...maar as mense (bestuur) net kan sien...” [if they (management) can just see]  
(I/5:8:219)

“...good management structure... **feel at home**...they have the **sense of ownership**...”

Participants also felt that *management at hospital level* should act as cohesive group in *protecting* and *buffering* nurses. Nurses must be confident that the *management at hospital level* have the *best interest of nurses in mind* and that they will *negotiate* on their behalf and *protect* them. Finally, participants were of opinion that *management at hospital level* must involve nurses in *decision-making*, take their comments into consideration and *value their input* and knowledge in issues related to the management of the hospital:

“...work as a **cohesive group**...sense that they are kind of **buffered** from anything horrible...**sense of protection**...being **part of the team**...” (I/2:4:108)

Nursing leaders from the University of California Davis Medical Center confirmed the value of what they called “participatory management”, whereby the ideas provided by staff are included when changes are made in practices in the hospital. This has resulted in all interdisciplinary policies being championed by nurses working in the hospital (Robinson, 2001:415). The findings from these studies echo the need for solid management structures in creating positive practice environments in critical care units and therefore provide supporting data for my findings.

#### 4.4.2.4 Category 4: Solid knowledge base

The subcategories that describe a *solid knowledge base* are: *appropriate training, standards of care, clinical knowledge and skills, and professional advancement*. *Appropriate training* refers to *knowledge and skills development* that are *context and rank specific* in nature. Participants felt that training with other categories of nurses was often a waste of time because the knowledge and skills learnt were not relevant to the critical care context.

“...like our **skills** [are] not **rank specific**... will be there with ENAs and ENs...people not working in the ICU...be learning about how to take a blood pressure...**waste of my time**...I want to know...I can do to reduce my arterial pressures...” (1/3:8:286)

To that end the American Nurses Credentialing Centre (2007) supports competency-based clinical development within a professional development programme for nurses. Appropriate training must be done by a clinical facilitator that works in *partnership* with the unit manager, shift leaders and physicians to ensure that the training provided is *uniform* in nature and that there is a *team approach* to training. Participants recognised the value of *on-the-spot training* next to the bed; physicians and senior nurses playing an important role in *recognising* and using these opportunities to train and teach nurses. On-the-spot training contributes to the *reinforcement* of knowledge and ensures that nurses are not left with “old knowledge”.

“...**clinical facilitator** should be able to **combine** all this...on the same level...everybody works towards...same procedures...” (1/3:8:297)

“...it will be a **recap**...left a little with our old, **old knowledge**...” (1/3:2:63)

*Standards of care* represent the product of a *solid knowledge base* and *depend on nurses*. Because nurses have a *responsibility to do things right* it is important that they have the appropriate knowledge of the *evidence* related to *best practices*. There is no place for “shortcuts” in the critical care unit: nurses need to *know* what to do and *when to do* it to ensure *optimal patient care* and to have *pride* in what they are doing.

“...strive for all aspects of **best practice**...you can't let your **standards** slide...the best in the hospital...**free of nasty shortcuts**...” (1/2:2:60)

*Clinical knowledge and skills* is very important in the context of the critical care environment, because *not knowing is dangerous*. *Clinical knowledge and skills* makes nurses' *work easier* and provide them with *confidence* to execute their duties. In light of the fact that knowledge is so *dynamic*, nurses working in the critical care environment must have a culture of *life-long learning*. According to Huggins (2004:38) critical care nurses learn knowledge and skills through a process of life-long learning in order to become competent. The author further suggests that continuing education and training in CCUs are essential to

maintain good practice. Up-to-date clinical knowledge and skills contribute to the critical care nurses' *sense of being the best*.

“...better when you do something that **you are sure** of what you are doing...**dangerous for the patient...**” (1/6:1:25)

Rischbieth (2006:401) emphasises the value of clinical knowledge and skill in the critical care environment by maintaining that “to provide effective and high-quality intensive care, critical care nurses must possess the relevant specialist nursing knowledge and skills”. The author further recognises that this knowledge and skill is beyond the scope of undergraduate nursing education programmes and that the knowledge and skills relevant to the context of the critical care unit requires specialist postgraduate training. This statement therefore also supports the need for *appropriate training* for the critical care nurse.

*Professional advancement* was important to the participants as it related to the *ambition* and *drive* that is, according to them, part of who they are and why they are there. The participants recognised that knowledge is very *dynamic* in the context of the critical care environment and that it must be updated regularly. Termed “professional development”, the American Nurses Credentialing Centre (2007) confirmed the importance of personal and professional growth and development of staff. As one of the attributes of ‘Magnet’ hospitals, professional development places a great emphasis on quality orientation, in-service education and career development services.

Participants mentioned that it is as much the *responsibility of the institution* to keep nurses’ knowledge updated as the *nurses’ own* responsibility to ensure that she is knowledgeable about her field of specialisation. Opportunities to attend workshops and conferences seem to contribute to the professional advancement of nurses and participants felt that institutions can significantly *contribute by sending* nurses to attend these sessions.

“...tegnologie verander elke dag, jy moet op hoogte bly...dit gaan oor ambisie”

[technology changes everyday, you have to **stay abreast**, it is about **ambition**] (I/1:6:173).

“...en om gereeld om kongresse te gaan...bekend te bly met veranderinge” [to go to **conferences** regularly..**keep up with changes**] (I/5:2:62).

Finally, participants concluded that nurses without the necessary knowledge and skills are *dangerous* and *increase the pressure and workload* of the other staff. Nurses working in critical care units without a *solid knowledge base* are often the cause of adverse events when caring for patients. These nurses contribute to the *stress* and *intensity* of the critical care environment resulting in episodes where the other nurses have a sense of *not being in control*.

#### 4.4.2.5 Category 5: Nursing human resources

*Nursing human resources* refers to having the *right numbers* of nurses, or a suitable nurse-to-patient ratio in the unit, and *knowing your partner*, that is, knowing that she is capable of caring for the patient assigned to her. Having the *right number* and *knowing your partner* significantly reduces the *stress* of the critical care environment and contributes to the positive practice environment of the nurse.

Having the *right numbers*, according to the participants, could *not be based* on *calculations* cast in stone. The critical care environment is very *dynamic* and because a patient's condition can change at any moment, these ratios must be based on *individual assessment* and not a *predetermined calculation*. In selectively sampling the literature, the American Association of Critical Care Nurses (2005:28) concluded that matching patient needs with the skills and competencies of staff is a complex process. The authors are of opinion that nurse staffing cannot be determined through fixed ratios but must be flexible because of the continuous fluctuation in the condition of the critically ill patient. Pilcher and Odell (2000:39) are of opinion that scoring systems can be useful in determining nurse-to-patient ratios, but recognise that these scoring systems often do not reflect the totality of the nursing workload in a critical care environment. The authors concluded that appropriate nurse-to-patient ratios had to take the severity of the patient's illness into consideration.

The report on appropriate staffing (AACN, 2005) therefore echoes the finding of my study and serves as supportive evidence.

“...behels die pasiënt waarna jy kyk...hoë-sorg partykeer meer gekompliseerd as ICU pasiënt...een suster daar nodig...” [**patient** that you have **to look after**...high care sometimes **more complicated** than ICU patient...**require one nurse**] (I/6:2:51)

*Knowing your partner* is a critical component of nursing human resources. According to the participants, having the *right number* of nurses or the correct ratio, does not mean that you have the *right nurses* for the *job*. Very often nurses working in critical care units have to rely on agency staff and staff from other parts of the hospitals (very often lower-ranked nurses such as enrolled nurses) to care for patients. *Not knowing* these nurses *adds* to the *stress* of the critical care environment. It is often the case that these nurses do *not have* the necessary *knowledge and skill* to *care* for patients and to *pick-up complications*, resulting in experienced and knowledgeable nurses having to care for both the patient and the nurse sent to look after the patient. Nurses unfamiliar with each other do not know each other's knowledge, skill and competence level, resulting in a *lack of trust*. Although so-called agency nurses are expected to state their level of expertise (i.e. trained or experienced) and provide evidence of their abilities, the agencies employing these nurses very often do not distinguish between experience of one day versus ten years in the critical care context. It is also very difficult for *shift leaders* responsible for assigning staff to patient cases to ascertain the knowledge, skill and competence level of the agency nurse when the planning timelines for staff are short and the options limited. These factors can be confirmed by eight years of personal experience as a *shift leader* where we often had to “just take anyone” or “just do without”.

“...if every night you work with a **different person**, it's **incredibly stressful**... (I/3:12:471)  
“...were short staffed...get people from agencies..**lack skill** to pick up complications...**cannot trust**”(I/4:4:56).

In their article on nurse-to-patient ratios in critical care units, Pilcher and Odell (2000:40-41) report on the use of healthcare support workers in the critical care environment. Several of the studies referred to by the authors (for example, Canadian Association of Critical Care

Nurses, 1999; Mackinnon, 1998; Intensive Care Society, 1997) concluded that the use of support workers to provide direct patient care in critical care units is not recommended. The use of staff not properly trained to care for the critically ill often adversely affects the workload of professional nurses working in the critical care environment because of the added requirements of supervision. By engaging nursing staff (such as agency nurses) not previously known to the unit and with skills and scopes of practice that are difficult to assess spontaneously, there is an increased risk of exposure to adverse events, adding to the pressure of the environment (Rischbieth, 2006:400).

Rischbieth (2006:399) concluded that systems to formally assess skill levels and then match the allocation of permanent and agency staff to the patient have not been described. To that end the author argues for a more innovative approach known as skill matching. Nurse-to-patient allocation decisions require continuous review throughout a given shift as demand fluctuates, and skill matching facilitates the assessment of expertise and the strategic allocation of the available expertise to patient acuity in the ICU (Rischbieth, 2006:399).

*Continuity of staff and knowing everybody's capability* contributes to an environment where nurses are *in control*. When nurses *know* each other, they *trust* each other as *autonomous practitioners* that work towards the *same goal*. As one of the participants stated:

“...**all experienced**...you don't have to check up on them...work sort of **independent**...when you have got this odd soul who you don't know, that the **stress increases** ten-fold...you immediately feel your stress goes up...I do not know this chick, wonder what she is like...**not in control**...” (I/3:14:532)

The findings from the studies discussed in the previous paragraphs emphasise the need for not only having enough nurses on staff but also having enough knowledgeable nurses that are familiar to the unit. These studies therefore provide supporting data for my study findings.

#### 4.4.2.6 Category 6: Critical care family

To be part of the *critical care family* refers to *reciprocal relationships* of *mutual trust* and *respect* on three levels. Partners in the *reciprocal relationship* with the nurse working in the critical care environment include *physicians, colleagues* and other members of the *multi-disciplinary team* such as pharmacists, physiotherapist and dieticians. Because of the inherent *stress* associated with this environment, *open communication* and *respect for decisions* were believed to be extremely important. Krogstad *et al.* (2006) concluded that because of the multidimensionality of nurses' work and in light of their co-ordination role in the critical care environment, cohesive working relationships and cooperation between the partners of the multi-disciplinary team is an important factor in job satisfaction.

When talking about relationships between *colleagues*, the participants agreed that *working towards the same goal* was very important in establishing a relationship. This is confirmed by a concept analysis of collaboration conducted by Henneman, Lee and Cohen (1995) in which the authors concluded that for collaboration to be present, individuals must view themselves as a team and be working towards a common goal. *Respect* for each others' decisions and *teamwork* were considered paramount in creating a relationship of *trust*. *Respect and teamwork* between colleagues are very important, as illustrated by the following excerpts:

"...you would have everybody working towards the same goal..." (I/3:5:168)

"...so if one says this...and I would back her..." (I/3:5:168)

"...die een sien die ander raak agter dan gaan jy en help en so het ons goeie spanwerk..."[the one sees the other falling behind and **goes to help** contributing to **teamwork**] (I/6:1:24)

"...mekaar gehelp...as jy sien ek is besig met 'n resuss...na my pasiënt kyk sonder dat ek jou vra...'n span hê om saam te werk..." [**helped each other**...if you see I am busy with a resuss...will **look after my patient without me** having to **ask**...a **team** to work with] (I/5:10:28)

*Physicians* were considered to be part of the critical care family and nurses considered the *relationship* with physicians to be extremely important. The presence of an *open communication channel*, in other words being comfortable with phoning the doctor at any

time, was vital to the participants in order to execute their nursing duties. Physicians that *respect nurses' decisions* and *trust their judgement* are vital to a positive practice environment for the participants. Participants also acknowledged that doctors and nurses *rely* on each other in caring for patients and *trust* is therefore vital.

“...need to be able to **speak** to your doctor and say...you need the doctor **to hear** you when you say...doctor/nurse relationship is **incredibly important**...he **relies** on us...we rely on him...” (I/3:11:428).

“...trust my judgment...feels I am competent...it is a vote of confidence...” (I/2:7:223)

Participants also referred to what is termed the “nurse-doctor game” in the literature (Chaboyer & Patterson, 2001:74). Nurses often make covert recommendations to physicians while appearing passive, so that when the physician acts on these suggestions, he/she feels as though he/she remains in control. This is illustrated by the following excerpt:

“...voorstelle maak...diplomatie as moontlik...partykeer manipuleer ons hulle half om te doen wat ons wil...hulle dink nogsteeds dit is hulle idee...” [make suggestions...**diplomatic** as possible...sometimes we **manipulate them** to do what we want to...they still think it was **their idea**] (I/1:8:248)

“...ek dink in Suid-Afrika veral nog is daai setup...mans is nog dominerende party...” [I think in South Africa you have that **setup**...**men** are still **dominating**] (I/1:8,9:245,299)

Although international literature suggests that nurses have stopped playing this game (Chaboyer & Patterson, 2001:74), the phenomenon is still very prevalent in private critical care units in South Africa. This can probably be attributed to the hierarchical system where predominantly male doctors react in a patriarchal fashion to a predominantly female nursing profession.

Sadly, relationships between physicians and nurses still contain elements that are *detrimental* to the practice environment of the nurse. Nurses are still *treated* as *sub standard professionals* in some critical care units where doctors scream at nurses in *front of patients*, *humiliating* these nurses and *killing* their *confidence* and *passion* for the

profession. The verbal abuse and destructive behaviour that nurses are exposed to ultimately *burns* the *trust* between doctors and nurses.

“... prima donna doctors who jump up and down..” (I/3:3:118)

“...tend to explode and be verbally abusive...very destructive...no trust...” (I/2:7:217)

“...moeilik om positief te wees...neig om jou af te breek, jou sleg te sê...” [difficult to stay positive, tend to break you down] (I/1:9:260)

Robinson (2001:420-421) reported that the emotional elements of a healthy work environment *must not be ignored*, and that verbal abuse by physicians negatively affects the quality of work life for every nurse. The author concluded that behaviour such as verbal abuse, sexual harassment and violence in the workplace are destructive to organisations. The American Association of Critical Care Nurses (2005:16) reported on similar findings in saying that intimidating behaviour and deficient interpersonal relationships lead to mistrust, chronic stress and dissatisfaction among nurses.

Finally, members of the *multi-disciplinary team* are also considered a part of the critical care family, because even if the relationship is good or bad to a *greater or lesser extent*, there is still a relationship. Critical care nurses *rely* on a variety of members of the multi-disciplinary team to care for the patient in the critical care unit. As such, maintaining good relationships is important. Because of the context in which the critical care nurse practices, they are *treated as priority*.

“...team in critical care is quite big...we have a good **relationship** with them...we are **treated as priority**...and to a greater or lesser degree, there is a relationship...it is **all part** of the team... (I/2:6:199).

“...kyk die ander spanne, die fisioterapeute, ons werk goed saam...” [look at the other teams, the physiotherapists, there is good teamwork] (I/1:8:237).

Chaboyer and Patterson (2001:77) concluded that critical care nurses have more opportunities than non-critical care nurses to interact with members of the multi-disciplinary team. The authors argued that these close relationships can possibly be attributed to the fact that scientific knowledge dominates healthcare, and because members of the multi-disciplinary team view critical care nurses to be more closely aligned

with scientific medical discourse, critical care nurses gain kudos based on the perceptions of their cognitive and technical expertise (Chaboyer & Patterson, 2001:77). In conclusion, being part of the critical care family provides a support structure for the critical care nurse that positively contributes to her practice environment. The work environment of the critical care nurse requires close engagement and team work with other members of the multidisciplinary team in an ongoing manner to ensure the provision of optimal patient care. In his study on the practice environment of oncology nurses, Friese (2005:766) concluded that nurses in specialised units interact with fewer physicians, thus allowing them the opportunity to build better relationships, and have a greater depth of knowledge, thus allowing more professional interaction, than nurses in other units.

Strauss and Corbin (1998:142) remind researchers that insights about how concepts relate to each other can materialise at any time. For this reason, I carried a pencil and paper with me during the coding of my interviews in order to record any thoughts or experiences I had. One “aha experience” occurred early in the coding process. Reading through the transcripts, the significance of *being in control* was found in almost all of the discussions. As such my theoretical sampling focused on exploring *being in control* as a possible core category for the study. In the end, category 7 became the core category for this study: the one to which all the others relate.

#### **4.4.2.7 Category 7: Being in control**

When nurses working in the critical care unit:

- are there for the right reasons (*professional identity*),
- work in an *environment built with nurses in mind*,
- have *sound management* structures,
- have a *solid knowledge base*,
- have appropriate *nursing human resources*, and
- are part of the *critical care family*,

they expressed a state or feeling of *being in control*. These seven categories form the elements of a positive practice environment. The seven categories are constructed in a grounded theory and will be discussed in Chapter 6.

To the critical care nurse, "*being in control*" implied that he/she could *anticipate*, have a greater sense of *awareness* and so *prevent* any adverse events that *add* to the *stress* and *intensity* of their environment. The *prevention of adverse events* meant that the nurses were able to *devote* their energies to doing what they *loved*, that is, critical care nursing, in the *absence* of unnecessary *stress* that could lead to a sense of helplessness and feelings of not *being in control*. As alluded to in category 1, critical care nursing fulfils a need in the nurse: it provides her with a platform to still the need for control.

"...your **stress** doesn't get...ever grown to a **point of out of control**" (I/3:14:568)

"...if you are **in control**, you are **aware**...you **anticipate**...uhm aware of patients..who is looking after who...and you know...you can anticipate...there isn't this **whole excitement**...why I want to be in control..." (I/3:14:553)

"...critical care nursing **fulfils a need** in the nurse: we are all **control freaks**..." (I/2:4:143)

In a report on matching nurse skill with patient acuity in the intensive care unit, Rischbieth (2006:398) concluded that outcome-focused and safe healthcare delivery is a primary objective of intensive care staffing and risk management. According to the author, strategies for adverse event prevention, detection, investigation, documentation and review are paramount. Factors contributing to inappropriate and potentially hazardous care delivery include: nurses working outside the scope of practice in the ICU, nurses receiving inadequate orientation and workplace training, a lack of adequate clinical and educational support systems in place (i.e. bedside supervision), a lack of underpinning knowledge of critical care nursing and therapies, nurses working in an unsafe ICU physical environment, and nurses lacking awareness of occupational health and safety processes (Rischbieth, 2006:399). Several of these factors confirm the findings related to the core category in this study. When the critical care nurse is able to anticipate, she has a greater awareness of her environment which leads to the prevention of adverse events. To be able to anticipate, be aware and prevent, it is important that the nurse is in control of factors in her environment that can contribute to creation of adverse events.

From the discussion in the preceding paragraphs it is evident that indicators pointing to the concept of *being in control* appear in all of the major categories, and that all of the

categories can relate to it. It is also evident that the relation of the categories is logical and consistent in that there was no forcing of the data. In their discussion on the core category, Strauss and Corbin (1998:147) described the frequency with which a concept appeared in the data as being a criterion for choosing the core category. *Being in control* can therefore be considered as the core category for this research study. The identification of the core category represents the first step in selective coding (Strauss & Corbin, 1998:144) and the final step for discussion in terms of the research process in this chapter. The final process of integrating and refining the categories in order to link them into a theory that is grounded in the data will be presented in Chapter 6. Before I end the chapter with the conclusions deduced from the above findings, I present the strategies employed to ensure the generation of valid and scientific knowledge.

#### **4.5 RIGOUR**

Research aims to generate scientific knowledge: knowledge of a certain epistemological standard that embodies the ideal of science or its quest for truth (Klopper & Knobloch 2009:2). In the quest for the generation of scientific knowledge, the researcher conducts research according to a design and methods. The design and methods are guided by standards and rules to ensure the validity of the findings. Rigour is the umbrella term used to describe the strategies employed by researchers in ensuring the validity of their findings (Klopper & Knobloch, 2009:3). Over the last few decades, scholars have increasingly been debating the numerous standards of rigour in qualitative research (Chiovitti & Piran, 2003:428), resulting in a progression from emphasising the commonalities across methods, to recognising that each approach can have its own distinctive features. Traditionally, rigour in qualitative research is encompassed by a concept known as trustworthiness. Trustworthiness includes strategies of credibility, transferability, dependability and confirmability (Lincoln & Guba, 1985:290; Klopper & Knobloch, 2009:3). To that end, table 4.3 depicts the strategies I applied to ensure the scientific validity of the qualitative findings.

Table 4.3: Strategies to ensure trustworthiness

STRATEGY	APPLICATION	SOURCES
<p><b>CREDIBILITY</b></p> <p><i>To conduct the investigation in such a manner that will increase the believability of the findings</i></p>	<ul style="list-style-type: none"> <li>• Prolonged engagement with the participants to build rapport and trust.</li> <li>• Remained in the field until theoretical saturation was achieved.</li> <li>• Spent sufficient time in the field to gain an understanding of the context.</li> <li>• Triangulation: multiple methods to collect data, multiple perspectives in interpreting the data, the use of a co-coder to analyse the data.</li> <li>• Member checking: participants confirmed the emerging conceptual framework and my interpretation of the data.</li> <li>• Comprehensive review of the literature to support the findings of the study.</li> </ul>	<p>Lincoln and Guba (1985:294).</p> <p>Klopper and Knobloch (2009:5).</p> <p>Polit and Hungler (1997:305).</p> <p>Williams <i>et al.</i>, and Klopper (2009:48).</p>
<p><b>TRANSFERABILITY</b></p> <p><i>The degree to which the research may be applied to another context and yield similar results</i></p>	<ul style="list-style-type: none"> <li>• Theoretical saturation was achieved, indicating an adequate sample.</li> <li>• Thick description of the context was provided.</li> <li>• Provided a detailed description of the realisation of the data.</li> </ul>	<p>Lincoln and Guba (1985:297).</p> <p>Klopper and Knobloch (2009:8).</p> <p>Burns and Grove (2005:358).</p>

<p><b>DEPENDABILITY</b></p> <p><i>The stability of the data over time and conditions</i></p>	<ul style="list-style-type: none"> <li>• Thick and rich description of the study supported by literature.</li> <li>• Aim of the study not to generalise the findings – based in a specific context.</li> <li>• Use of a co-coder to confirm the dependability of the data.</li> </ul>	<p>Lincoln and Guba (1985:298).</p> <p>Klopper and Knobloch (2009:10).</p>
<p><b>CONFIRMABILITY</b></p> <p><i>The degree to which the results are confirmed by the data and not the subjectivity of the researcher</i></p>	<ul style="list-style-type: none"> <li>• Use of a co-coder.</li> <li>• Use of memos to state any insights or analytical ideas.</li> <li>• Extending final review of the literature until the framework was constructed.</li> <li>• Confirming the findings and the interpretations with the participants.</li> <li>• Consensus discussion with co-coder.</li> <li>• Use of the IDLE™-method to ensure an audit trail.</li> </ul>	<p>Lincoln and Guba (1985:298).</p> <p>Klopper and Knobloch (2009:12).</p> <p>Charmaz (2006); Strauss and Corbin (1998).</p> <p>Williams <i>et al.</i>; Klopper (2009:49) and Klopper (2010).</p>

## 4.6 CONCLUSIONS

From the empirical evidence and supporting literature presented at the beginning of section 4.4.2, I was able to deduce the following statements from the data:

### 4.6.1 Category 1: Professional identity

- Critical care nurses working in critical care units for the right reasons exhibit a positive attitude to their practice environment and tend to look past the negative elements more easily.
- The conception of what it means to be a critical care nurse not only provides a basic frame of reference that guides the critical care nurses' thinking, actions and interactions, but also the way in which he/she perceives problems, goals and approaches.
- When the unknown passion is reaffirmed as the reason for being there, critical care nursing becomes more than just a paid profession.
- Nurses working in critical care units for the right reasons cope better with the stress of the environment and contribute to a positive attitude in the critical care unit.
- Nurses working in critical care units for the right reasons are often driven by the need for control, reflected in the desire to do things right all the time. This results in a greater sense of pride and meaningful work for these nurses.

### 4.6.2 Category 2: Environment built with nurses in mind

- The structural features and unit attributes must provide a workable environment that facilitates nursing care in a safe environment that awakes ambition and pride in nurses, leaving them with a sense of being in control.
- An ergonomically-suited environment provides nurses with enough space to move freely and has everything in the right place so that nurses can focus exclusively on the task at hand.
- Continuous and direct observation of patients is a serious consideration in the physical layout of the critical care unit and monitoring devices as well as support space (rest- and tearooms) must be designed - with full on bed views providing direct observation of the patient - in mind.

- Modern and well maintained equipment that allows nurses to work smarter and not harder by increasing surveillance of patients, results in lower levels of stress and adds to being in control of the environment and the task at hand.
- Closed units with a single physician approach ensure continuation of care and a decrease in the occurrence of role confusion between nurses and physicians.
- Physicians working in critical care units with the relevant knowledge and skills provide a supportive and safe environment to critical care nurses in the case of adverse events.
- An environment built with nurses in mind has the necessary and relevant infrastructure to provide critical care nurses with a safe haven in which to practice.

#### **4.6.3 Category 3: Sound management**

- The unit manager plays an integral role in the creation of the atmosphere in the critical care unit, and therefore in the practice environment of the critical care nurse.
- The unit manager must be visible, accessible and committed to effective communication with the staff.
- The unit manager is a knowledgeable person that has the necessary knowledge and skills to understand the context in which his/her staff functions. By knowing the work situation the unit manager can support and encourage staff thereby increasing job satisfaction.
- Because the shift leader works closely with the staff, he/she is expected to assign patient cases to nurses based on their capabilities.
- The shift leader needs to be sensitive to the different levels of knowledge and skills that staff have, and he/she must exhibit a culture of understanding towards staff.
- In order to provide support and be able to do on-the-spot teaching, the shift leader must be considered out of ratio.
- Management at hospital level that is familiar with the context of the critical care environment will understand the challenges of the unit and subsequently provide appropriate support.
- Creating a sense of value and importance by recognising and rewarding nurse efforts provide nurses with a sense of ownership and being part of a family.

- Management at hospital level acts as a cohesive group in protecting and buffering nurses by having their best interest at heart and negotiating on their behalf.
- Management at hospital level contributes to a positive practice environment by involving nurses in decision-making and using their input to make changes in practice.

#### **4.6.4 Category 4: Solid knowledge base**

- A solid knowledge base depends on appropriate training, where the knowledge and skill development are context- and rank-specific, thus providing competency-based clinical development to the critical care nurse.
- Appropriate training follows a team approach that is uniform in nature and where the value of on-the-spot training is recognised as effective to reinforce knowledge.
- The product of a solid knowledge base is a high standard of care supported by evidence-based practice. Standards of care depend on nurses and high standards contribute to a sense of pride.
- Optimal patient care depends on critical care nurses that have the relevant clinical knowledge and skills. Critical care nurses committed to being the best acknowledge the dynamic nature of knowledge and have a culture of life-long learning.
- Skilled and knowledgeable nurse practitioners are confident in what they do.
- Critical care nurses have ambition and drive, and in light of the ever-changing and dynamic nature of knowledge, professional advancement plays an important role in personal and professional growth and development of staff.
- Institutions can contribute to the professional advancement of staff by providing opportunities to attend workshops and conferences.
- Pressure, intensity and workload of the critical care nurse are increased in the absence of a solid knowledge base because of the more frequent occurrence of adverse events.

#### **4.6.5 Category 5: Nursing human resources**

- Nursing human resources play an important role in creating a positive practice environment by reducing the stress and pressure associated with not having enough staff and staff not knowing each other.
- Staff ratios in critical care units cannot be based on predetermined calculations because of the continuous fluctuations in the condition of critically ill patients.
- Staff ratios must be based on the individual assessment of the patient, taking into consideration the severity of the patient's illness and adjusting ratios accordingly.
- Having enough staff is important, but knowing who one works with and being sure of their knowledge and skill is equally important.
- Staff unfamiliar to the unit often do not have the appropriate training to care for critically ill patients, thereby increasing the workload of the experienced staff and adding to the stress and pressure of the environment.

#### **4.6.6 Category 6: Critical care family**

- Critical care nurses do not work in isolation; rather they collaborate and interact with various members of the multidisciplinary team to provide optimal patient care.
- Because of the critical care nurses' multidimensional and coordinating role, cohesive working relationships and cooperation built on trust and respect are important considerations for job satisfaction.
- Critical care nurses view themselves as a team that works towards one goal in which respect for each others decisions play an important role.
- Nurse-physician collaboration depends on open communication channels and physicians that respect nurses' decisions and trust their judgement.
- Critical care nurses still play the "nurse-doctor game", and this can probably be attributed to the hierarchical system in which (predominantly male) doctors view themselves superior to (predominantly female) critical care nurses.
- Verbal abuse between by physicians humiliates nurses and destroys their passion and confidence.

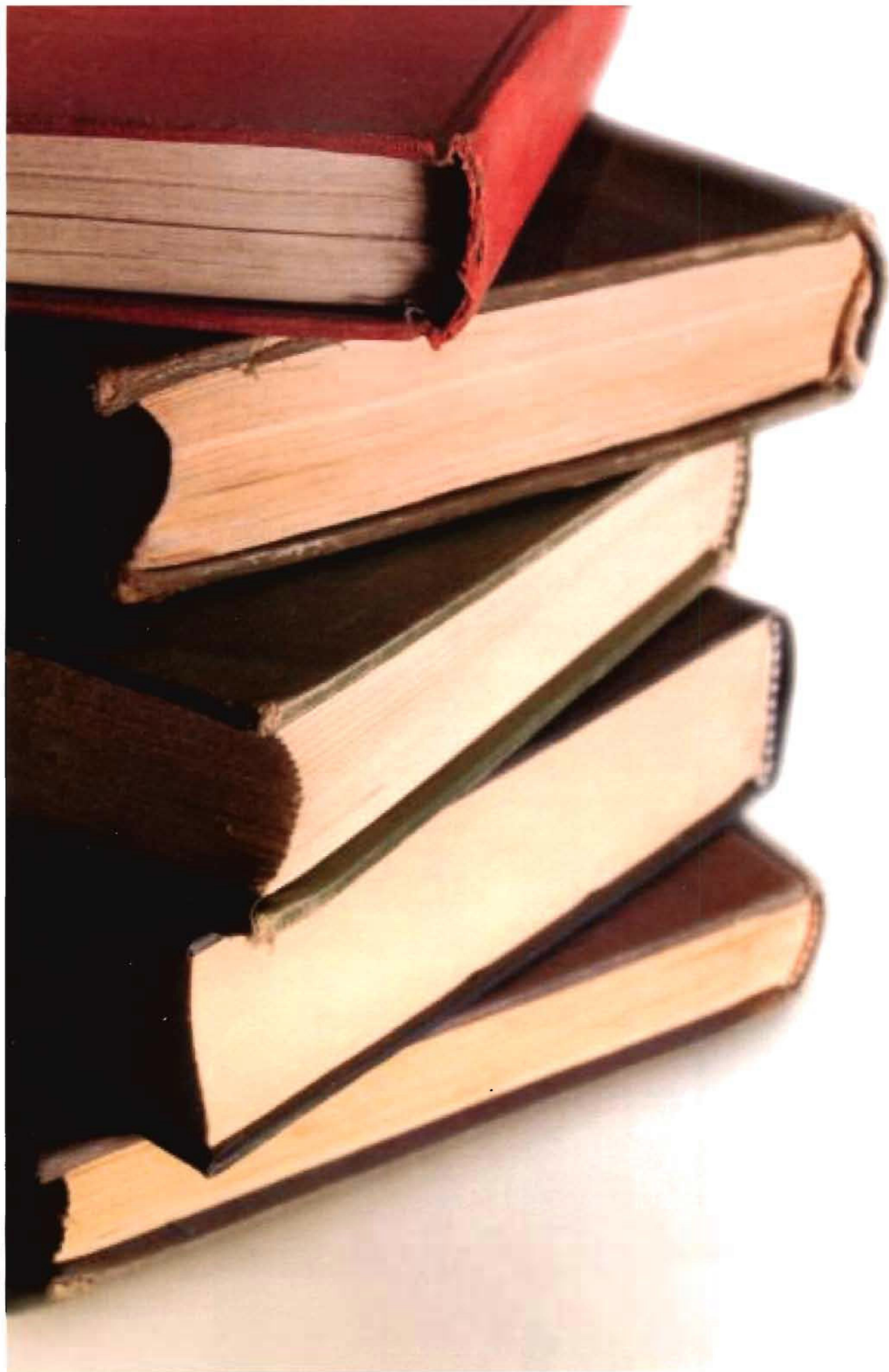
- Physicians treating nurses as sub-standard professionals are destructive to organisations and damage the trust between physicians and nurses, contributing to the lower quality of work life for nurses.
- Members of the multidisciplinary team treat critical care nurses as a priority, probably because of the regular interaction between them and the fact that the multi-disciplinary team views nurses to be more closely aligned with scientific medical discourse.

#### **4.6.7 Category 7: Being in control**

- Outcome-focused and safe healthcare delivery is a primary objective of critical care nursing.
- Being able to anticipate adverse events means that the critical care nurse has a greater awareness to detect and prevent events that contribute to the stress and intensity of the critical care environment.
- Nurses driven by passion and the need for control have the right reason for working in the critical care environment, implying that they cope better with the stress and have the desire to do things right all the time.
- An environment built with nurses in mind ensures that critical care nurses have a safe physical environment to practice in.
- Sound management that is familiar with the context and challenges of the critical care environment has support systems in place that is relevant to the critical care nurse.
- A solid knowledge base ensure that nurses working in the critical care environment do not practice out of their scope of practice and have the relevant clinical knowledge and skills of critical care nursing and therapies.
- Nursing human resources ensure that there is enough knowledgeable staff (who are familiar with the unit) at hand to guarantee appropriate skill matching. When there are enough nurses with the right skill matching, nurses can better prevent adverse events that lead to feeling out of control.
- To be part of the critical care family implies that everyone works towards the same goal, thus creating a safe and trusting environment to practice in.

#### **4.7 SUMMARY**

In this Chapter I presented the reader with a comprehensive overview of the data that was collected and analysed in phase 2 of the research process. The concepts identified by means of the inductive analysis of the data and the subsequent ordering of these concepts into more abstract categories will be used in identifying the relationships between the categories from which the theory will be constructed. A discussion of the trustworthiness of the data preceded the conclusions that were derived from the findings. In the next Chapter, I move on to provide the reader with a “to the point” overview of current literature pertaining to the phenomenon under investigation.



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## **CHAPTER 5**

# PRESENTING THE LITERATURE REVIEW

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## 5.1 INTRODUCTION

Following the discussion of the empirical findings and supportive literature presented in Chapters 3 and 4, this chapter will focus on a review of the current literature pertaining to the phenomenon under investigation, namely, positive practice environments in critical care units. This review represents the final stage of theoretical sampling and the chronological order in which the review occurred. The conclusions from the review of the literature in this chapter will be integrated with those derived in Chapters 3 and 4, in order to develop a conceptual ordering from which the theory is constructed in the subsequent chapter (refer to section 6.2.2.4.3 of Chapter 6).

## 5.2 THE PLACE OF THE LITERATURE REVIEW

The position of the literature review in grounded theory research has been a matter of some debate over the years. Strauss and Corbin (1998:53) argued that while the literature can hinder the creativity of the researcher, it can also encourage conceptualisation if it is used as an analytical tool. Glaser (1978), on the other hand, opposed the initial review of the literature and suggested that it should be delayed until the emerging framework is established, in order to ensure that the researcher does not view the data through a lens of preconceived ideas, often referred to as the “received theory” (Charmaz, 2006:165). Other authors, such as Wuest (2007:246), have rejected Glaser’s pronouncement in stating that an initial review of the literature is often necessary to justify the need for the study and to identify how the theory is similar or different to what is already known. Wuest (2007:247) concluded that knowledge of the theoretical literature can contribute to the researcher’s theoretical sensitivity, thus capacitating the researcher to have theoretical insight in the conceptualisation of the data. Charmaz (2006:166) was of opinion that the literature review can serve as an opportunity to set the stage for what the researcher does in subsequent phases of the research process.

In the case of this research study, I had to consult the literature in order to prepare a proposal for review by the ethical committees of the university and private hospital sector. The proposal also served as evidence that little was known specifically about the practice environment of the critical care nurse in CCUs in the private hospital sector in South Africa.

As part of the preparation of a proposal, scholars are required to state a theoretical framework on which they will base their research study. The theoretical framework selected for my study was the Conceptual Model for Healthy Work Environments for Nurses developed by the Registered Nurses Association of Ontario (RNAO, 2006(a):14). As stated in Chapter 1, the inductive nature of the grounded theory design requires the researcher to explain the phenomenon under study in terms of a conceptual framework that evolves during the research itself (Strauss & Corbin, 1990:49). To that end, the Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006(a)) was only used as a point of departure for the research study and not to deduce any specific hypotheses before the collection and analysis of the data (Charmaz, 2006:169). The concepts from the literature and theories that were reviewed at this stage of the process remained in the background and only became relevant after the analysis of the data (Charmaz, 2006:169).

As a former critical care nurse, practising in the private critical care setting in South Africa, I acknowledge the fact that I bring certain theoretical knowledge to the research arena. Strauss and Corbin (1998:47) are cognisant of this fact: "We all bring to the inquiry a considerable background in professional and disciplinary literature". Insight does not occur haphazardly; rather it occurs to the prepared mind during interplay with the data. It is the researcher's knowledge and experience that enables him/her to recognise incidents as being conceptually similar or different (Strauss & Corbin, 1998:47). Following the development of the concepts and their subsequent grouping into categories, I conducted a preliminary review of literature considered relevant to the emerging categories (refer to Chapter 4). This review entailed the "selective" sampling of the literature (Brook, 2003:50) during which the concepts that earned their way into the emergent theory were further explored to establish previous support for the concept. This process of selective sampling of the literature was discussed in the previous chapter.

In the following paragraphs I will present the reader with a concise overview of the literature relevant to the phenomenon under investigation, namely a positive practice environment in critical care units. After showing that existing models and theories are used to inform the researcher's worldview once the concepts related to the current study are

identified, I will provide evidence of the integration and relation of the literature to the newly derived categories as they occurred in the study.

### **5.3 PRESENTING THE LITERATURE**

In grounded theory, a literature review is not conducted to provide an extensive discussion of all literature relating to the phenomenon being studied, but rather to critically review what is known about the concept – in this case, positive practice environments in critical care units - and to elucidate on the empirical findings of a study in order to create new understanding. A critical review of the literature also ensures that the current body of knowledge is not flooded with things we already know.

In recognition of the stated purpose, I conducted a search of peer-reviewed studies and publications related to positive practice environments, using databases such as MEDLINE, CINAHL, ScienceDirect, and GOOGLE Scholar. The subject librarian for Nursing Science, who was based at North West University's library, also assisted in the search. A combination of the following keywords was used to search the databases:

- Positive practice environment.
- Healthy work environment.
- Critical care units.
- Intensive care units.
- Model.
- Theory.
- Critical care nurs\*.

The citations were reviewed and studies and publications were chosen based on their relevance to the phenomenon under investigation.

As mentioned in Chapter 3 (section 3.2.3.1), a positive practice environment is a complex construct to conceptualise and measure (Lake, 2002). As stated in section 1.2 of Chapter 1 various authors that report on the work environment of nurses seem to use the term

“positive practice environment” and “healthy work environment” interchangeably. In this research study, I recognise the meaning of the two concepts to be similar in nature, but will use the name assigned by the authors as it appears in the literature when reporting on the findings. In light of the immensity of literature that currently exists on a healthy work environment or a positive practice environment, I divided the review into two main sections.

Under section 5.3.1, I discuss the origin and the importance of a healthy work environment or positive practice environment in the discipline of nursing. In section 5.3.2 I provide a discussion of the different definitions of a healthy work environment (alternatively positive practice environment) and the characteristics that constitute such an environment as described by four different organisations regarded as authorities in healthcare and specifically nursing.

### **5.3.1 Presenting the origin**

The work environment of nurses and its impact on the recruitment and retention of nurses was recognised in the early 1980's following a national nurse shortage in North-American hospitals. Amidst the nursing human resource crisis, a group of hospitals was able to attract and retain nurses seemingly uninfluenced by the dearth in nursing numbers. To that end the American Nurses Association (ANA) appointed a task force to investigate why some hospitals outperformed others in their ability to recruit and retain nurses. The findings of this landmark study identified and described 14 characteristics of the so-called “Magnet Recognition Programme”, which now represents the cornerstone of credentialing standards for nursing practice environment in the United States of America (Cimiotti, Quinlan, Larson & Pastor, 2005:384). These 14 characteristics later became the American Nurses Credentialing Centres’ “forces of magnetism” and may be regarded as the attributes that exemplify excellence in nursing (ANCC, 2007). The 14 forces of magnetism are presented in Table 5.1.

Over the last two decades, a substantial number of studies have been conducted to further investigate the characteristics of “Magnet” in an attempt to better understand the relationship between nurse- and patient outcomes, and work environments (Kramer &

Hafner, 1989; Kramer & Schmalenberg, 1991; Aiken & Patrician, 2000; Lake, 2002; Choi, Bakken, Larson, Du & Stone, 2004). In a seminal study by Aiken *et al.* (2002), the authors concluded that an acute shortage of professional nurses not only impacts on the quality of patient care but also contributes to the high levels of stress in nurses' work environments. The findings of the study indicated that hospital nurse staffing numbers closely correlate with patient mortality, nurse burnout and nurse job dissatisfaction.

In their validation of the literature on healthy work environments, Heath, Johanson and Blake (2004:524) concluded that healthy work environments are at the heart of the solution to significantly affect patient outcomes and professional nursing practice. The Registered Nurses Association of Ontario (RNAOa, 2006:10) also recognised the relationship between nurses' work environment and patient outcomes and added that the work environment of the nurse also impact on the organisational and system performance. In addition, the RNAO (2006a) are in agreement with other authors (CHSRF, 2001; Bauman, 2007:3; Ulrich *et al.*, 2006:46; AACN, 2005) that the achievement of healthy work environments for nurses is not only critical to the safety of patients and nurses but also to the recruitment and retention of nurses (RNAO, 2006a:10).

Schmalenberg and Kramer (2008a:65) recognise the value of a healthy work environment in clinical units by maintaining that "the work environment of nurses at the front line in hospitals must be improved if patients are to receive safe, quality care and if nurses are to experience professional fulfilment and job satisfaction, and experience less turn over, job stress and burnout". While studying the literature on the practice environment of the nurse, it became clear that there is a definite connection between nurse outcomes, patient outcomes and the practice environment of the nurse. The World Health Organisation (WHO, 2008) identified the global health workforce crisis, and in particular the critical shortages of nurses as a priority item for action. Following their comprehensive review of the nursing workforce crisis (known as the Global Nursing Review Initiative) the International Council of Nurses (ICN, 2007b:35) identified positive practice environments and organisational performance as one of the five global priorities for action.

Table 5.1: The 14 forces of magnetism (ANCC, 2007)

CHARACTERISTIC	DEFINITION
<b>Force 1: Quality of nursing leadership</b>	Knowledgeable strong leaders are willing to take risks and advocate for their staff.
<b>Force 2: Organisational culture</b>	Nursing departments are decentralised, with unit-based decision making and strong nurse representation in committees throughout the organisation.
<b>Force 3: Management style</b>	Managers involve staff at all levels of the organisation. Nurse leaders make an effort to communicate with staff, and staff members feel that their opinions are heard and valued.
<b>Force 4: Personnel policies and programmes</b>	Salaries and benefits are competitive. There is creative and flexible staffing, with staff involvement. There are many opportunities for promotion.
<b>Force 5: Professional models of care</b>	Nurses have responsibility, accountability, and authority in their patient care. They coordinate their own support and proper resources from the organisation.
<b>Force 6: Quality of care</b>	Nurses believe that they are giving high-quality care to patients and that the organisation sees high-quality care as a priority.
<b>Force 7: Quality improvement</b>	Nurses participate in the quality improvement process and believe that it helps to improve patient care.
<b>Force 8: Consultation and resources</b>	Consultation, including advanced practitioner nurses and peer support is available and used.
<b>Force 9: Autonomy</b>	Nurses are allowed and expected to work autonomously, consistent with professional standards as members of the multi-disciplinary team.
<b>Force 10: Community and healthcare organisations</b>	Hospitals maintain a strong community presence that includes a variety of long-term outreach programmes.
<b>Force 11: Nurses as teachers</b>	Nurses teach in all aspects of their practice.
<b>Force 12: Image of nursing</b>	Nurses are seen as essential to the hospital's delivery of patient care.
<b>Force 13: Interdisciplinary relationships</b>	Relationships are positive with mutual respect by all disciplines.
<b>Force 14: Professional development</b>	Continuing education for professional and personal growth and career development is promoted.

In the next paragraphs I will provide a comprehensive overview of current literature pertaining to the phenomenon under investigation. Where applicable, I will cross-reference empirical findings from this research study with that of existing literature in an attempt to integrate the literature and the findings in a coherent manner. This will ensure the grounding of the empirical data from this study in the current literature and will provide scientific validation for the concepts included in the theory.

### **5.3.2 Definition and characteristics**

The concept “positive practice environment” (or “healthy work environment”) and its defining characteristics have been studied extensively over the past two decades. First described as the organisational climate by Litwin and Stringer (1974, quoted by Mrayyan, 2008:224), the organisational climate was said to represent a set of measureable properties of the work environment, perceived by employees to influence their motivation and behaviour. In their search for how to define, identify and achieve a positive work environment, Wolf and Greenhouse (2006:459) referred to two organisational models as a background and a framework for evaluating and achieving a work environment that leads to high-performing teams and organisations.

The first model, known as the High Performance Programming Model (Nelson & Burns, 1984), distinguishes between four different levels of work environments in which teams can either be (1) reactive, (2) responsive, (3) proactive or (4) high performing (Wolf & Greenhouse, 2006:459). Each of the levels presented in Nelson and Burns’ model (1984) has its own distinctive features by which it can be identified in the work environment. According to the authors, the reactive team has a crisis mentality and focuses on survival. These teams usually have small “cliques” with paranoia, distrust and pessimism among them (Wolf & Greenhouse, 2006:459). In the nursing context, the reactive team is about avoidance of blame, staying out of trouble and punishing those that fall below standards. In the second team, known as a responsive team, there is more cohesiveness among the staff and they seem to have the ability to handle most situations. The team is characterised as one that “follows the rules”, and in a nursing context the responsive team will aim to improve performance by obliging with the standards and policies to achieve the desired

outcomes (Wolf & Greenhouse, 2006:459). The third team is referred to as the proactive team and has strong shared visions and values and demonstrates the ability to anticipate and handle difficult situations in an innovative and creative manner. As a nursing team they set standards well above those expected of them and they look beyond policies towards national benchmarking as ways to achieve their outcomes (Wolf & Greenhouse, 2006:459). The last team, the high performance unit, exhibits high levels of synergy coupled with energy and spirit. Staff working in these units search for highly innovative changes that go beyond expectations (Wolf & Greenhouse, 2006:459).

The second model described by Wolf and Greenhouse (2006:459), known as the Transformational Model for Professional Practice in Healthcare Organisations (Wolf, Hayden and Bradle, 1994), builds on the original work of Nelson and Burns (1984) by translating high performance programming into a healthcare context. The model is divided into four components with professional practice at the core or “heart” of the model. The other components include process, primary outcomes and strategic outcomes. At the heart of the model, professional practice reflects the distinctive contribution of each of the members of the multi-disciplinary team to patient care (Wolf & Greenhouse, 2006:459). Using these two models as a framework, Wolf and Greenhouse (2006:46) argued that it should be very straightforward to create a positive work environment in organisations.

In validating the literature on healthy work environments, Heath *et al.* (2004:524) identified four key definitions for a healthy work environment. They were: (1) healthy work environments do not sacrifice people at the expense of profit; (2) healthy work environments do not reduce everything to cost versus benefit or profit versus loss; (3) healthy work environments know that costs are multifaceted – they know that profit means to make progress, not just to make money; and (4) healthy work environments are about moving from trapped potential to tapped potential. The authors concluded that there are many factors affecting unhealthy work environments but that failure to foster a healthy work environment will harm not only nurses but patients and their families as well (Heath *et al.*, 2004:529).

In her work on positive practice environments, Lake (2002:177) described the theoretical foundations of positive practice environments to be rooted in the sociology of organisations, occupations and work. In Lake's opinion a nursing practice environment is indicative of the hospital managers' approach to resolving dilemmas of organisations and work. In organising many workers in large-scale tasks, management are faced with two issues: decision-making control over the work and coordination of the work effort across workers (Flood, 1994 quoted in Lake, 2002:177). The arrangement of work in hospitals is essentially based on one of two models, namely the bureaucratic and professional models of work organisation (Alexander, 1982 quoted in Lake, 2002:178; Flood & Scott, 1987 quoted in Lake, 2002:178). According to Lake (2002:178), the bureaucratic model, also referred to as the task-centred model, "emphasise[s] control exercised through hierarchical authority and formal rule enforcement. The professional model, also known as the goal-centred model, emphasise[s] individual qualifications and collegial control systems operating within the professional staff." Lake (2002:178) argued that a professional model is preferable to a bureaucratic model in the nursing practice environment, stating that the intrinsic complexity and unpredictability associated with caring for patients requires professional alertness and skill. The professional model lends itself to having a greater nurse presence with the patient (**this relates to the findings presented under category 5, nursing human resources**) "which makes preventive and monitoring action possible [**which supports the findings of category 2, environment built with nurses in mind**], and by greater decision-making authority and flexibility for the nurse, which supports rectifying action that is appropriate and efficient [**refer to category 4, solid knowledge base**]" (Lake (2002:178) Lake (2002:178) concluded that a nursing practice environment could be defined as "the organisational characteristics of a work setting that facilitate or constrain professional nursing practice." It is interesting to note from the foregoing discussion that some of the characteristics of the goal-centred or professional model also emerged as very prominent concepts in categories 2, 4 and 5 that were discussed in Chapter 4, providing supportive evidence for my findings.

This concludes the section that provided a general overview of positive practice environments. An overview of the definition and characteristics of positive practice

environments that have been developed by some of the highest regarded nursing authorities globally, will be discussed in the paragraphs to follow.

### 5.3.2.1 The Canadian Health Services Research Foundation

The Canadian Health Services Research Foundation (CHSRF, 2001:3) describes the six characteristics identified by Kristensen’s (1999) model for social and psychological well-being as necessary elements for creating an optimal work environment. Using the six characteristics from the model, the CHSRF (2001:4) illustrate which principles of the original model need to be addressed in order to create a positive practice environment. Each of the six major principles and their associated issues is illustrated in Table 5.2 and briefly discussed in the following section.

Table 5.2: Principles and issues in nursing work life (Kristensen, 1999; CHSRF, 2001)

PRINCIPLES	ISSUES
<b>Demands fitting the resources of the person</b>	Work pressures
<b>Degree of basic predictability</b>	Job security; workplace safety; violence in the workplace
<b>Degree of social support</b>	Support by managers and colleagues; education and development
<b>Degree of meaning</b>	Professional identity
<b>Degree of influence</b>	Control over practice; control over scheduling; nursing leadership
<b>Balance between effort and reward</b>	Remuneration; recognition and reward

The first principle, demands that fit the resources of the person, refer to the work demands of nurses compared to what they can reasonably give which in turn influence the care given to the patient (CHSRF, 2001:4). Additional work pressure caused by high workloads, skill and knowledge deficit and insufficient or unavailable resources contribute to increases in pressure. In light of the increases in patient acuities and case complexities, coupled with an acute shortage in staff numbers, experienced nurses often find it particularly hard to cope with the increased workload. This is usually attributed to the fact that their clinical experience not only means they have to mentor and supervise less experienced nurses, but they must also perform administrative duties as well as care for their own patients (supporting the findings described in categories 3, sound management; 4, solid knowledge

**base; and 5, nursing human resources).** These work pressures are often severe enough to affect patient care. Several international studies provide evidence that lower nurse-to-patient ratios often lead to complications and poorer patient outcomes (CHSRF, 2001; Aiken *et al.*, 2002; Shullanberger, 2000).

The CHSRF (2001:5) further reported that current workload measures to determine nurse-to-patient ratios are insufficient because they do not take into account the medical and nursing complexity of the patient, resulting in nursing effort and expertise not being adequately recognised, measured and compensated. Other studies also show the ineffectiveness of current measures used to calculate nurse-to-patient ratios (Parson *et al.*, 2005; Rischbieth, 2006; Iapichino, Radrizzani, Pezzi, Assi, Di Mauro, Mistracetti & Porta, 2005), which supports the empirical findings for **category 5** that addressed **nursing human resources**. The evidence is further corroborated by the low mean score (2.34) of the subscale *Staffing and Resources* of the PES-NWI (Lake, 2002), indicating that critical care nurses were of opinion that the requisite feature for this scale was absent from their practice environment (refer to Chapter 3, section 3.2.3.2.5).

The second requirement for a healthy work environment is the presence of a high level of predictability. Nurses report on three sources of unpredictability (CHSRF, 2001:6):

- Job security.
- Risk of injury, and
- Workplace violence.

Job security and workplace safety do not seem to be concerns shared by the nurses that participated in this study. In light of the current acute shortages in nursing staff across both healthcare sectors in South Africa, nurses do not seem to be anxious about losing their job – a sentiment shared by the authors of the CHSRF paper. The private hospital sector did not report on any downsizing due to the global economic recession and vacancy rates remain high in both sectors (refer to Chapter 3, section 3.2.1.2). In their report on workplace safety, the CHSRF (2001:6) acknowledges the relationship between staff density, work overload, stress and musculoskeletal injuries in nursing workplaces, stating that job strain increases the risk of musculoskeletal injuries. Interestingly, workplace safety in terms of

nurse injuries was not mentioned by the participants in this research study. From my experience working in private critical care units, this could possibly be attributed to the fact that most of the units have what is known as “turn teams”, electronic beds and lifting equipment for patients.

Contrary to job security and workplace safety, workplace violence did emerge as a source of unpredictability for nurses in this study. According to the Canadian Centre for Occupational Health and Safety (1999), workplace violence constitutes any act in which a person is abused, threatened, intimidated or assaulted. Most commonly nurses report hurtful remarks or attitudes and humiliation in front of patients, with perpetrators ranging from colleagues and other members of the multi-disciplinary team to families and patients. The CHSRF (2001:7) reported that in Canada verbal abuse is most often inflicted by physicians and other colleagues, indicating a link with the empirical evidence from this study in which nurses reported a mean value of just above 2.5 in the subscale *Collegial Nurse-Physician Relations* of the PES-NWI (Lake, 2002) and confirmed incidents of verbal abuse from physicians in **category 6, the critical care family described**, in Chapters 3 and 4 of the study.

The degree of social support represents the third principle for a healthy work environment described by CHSRF (2001:7), and is usually provided by managers, supervisors and colleagues, whilst cognitive support comes from mentors and the organisation’s policies concerned with professional development and careers. Social support from supervisors and colleagues seems to reduce stress among workers, making them feel more secure and satisfied with their workload and career opportunities (CHSRF, 2002:7). Within the realm of social support, the CHSRF (2001:8) concluded that good team relations affect patients positively, reducing their mortality. The value of support from the management of critical care nurses are alluded to in **category 3 under sound management** in this research study. It is noteworthy that participants who completed the PES-NWI tended to score the subcategory *Nurse Manager Ability, Leadership and Support* the highest (refer to chapter 3, Table 3.10), indicating that the participants were satisfied that senior management provided an environment that supported and recognised their efforts and demonstrated quality leadership. This contradicted some of the comments from nurses that participated in the intensive interviews, who indicated that they did not receive adequate support from senior

management. One reason for this could be because the PES-NWI did not distinguish between the different levels of management as the participants did during the interviews. Specific evidence exists for better patient outcomes when there is good collaboration between nurses and physicians (CHSRF, 2001:8; Aiken, Sloane & Sochalski, 1998). This is similar to the findings presented in **category 6** labelled the **critical care family** of this research study, where participants indicated that being able to phone the doctor at any time was vital for the nursing care of the patient. Educational and professional development evident in organisations that supported their nurses by backing their clinical decisions, offering educational and professional development and a career path, was also considered to be important in a healthy work environment. The importance of educational and professional development also emanated from the empirical findings in this study as described in **category 4, solid knowledge base**.

The fourth principle refers to the degree of meaning, in other words, how nurses find meaning in their work by being able to care for patients in a way that conforms to their philosophy (CHSRF, 2001:8). According to CHSRF (2001:9), and confirmed by Bauman (2007:3), nurses ascribe to a holistic philosophy of care and their work therefore has most meaning when they are able to attend to all aspects of patient care. As mentioned in Chapter 4 (section 4.4.2.1, category 1), Fagermoen (1997:435) concluded that a nurses' professional identity provides her with a frame of reference that guides her thinking, action and interaction. According to a report by Schmalenberg and Kramer (2008a:76), on clinical units with the healthiest work environments, nurses working in clinical specialities often do so because of their passion for and interest in it. Participants in this research study considered their frame of reference for coming to work (**refer to category 1, live to work**) as very important, which was undoubtedly related to their passion for doing the job as opposed to viewing it simply as a paid profession.

The degree of influence (control over practice, control over scheduling and nursing leadership) is the fifth principle described by the CHSRF (2001) in their report on the benefits of a healthy workplace. In order for nurses to have control over their practice, the nurses' professional roles must be in order, thus implying that everybody in the team must be clear about their responsibilities. This is conclusive with the findings reported in

**category 2** under an **environment built with nurses in mind**, where the participants mentioned a closed critical care approach contributing to a decrease in role confusion in the team.

Control over practice is consistently related to job satisfaction when nurses are awarded the opportunity to practice independently within the full scope of their practice (CHSRF, 2001:9). Having a say in the treatment plan for patients make nurses feel valued and committed to the organisation. Control over scheduling is another element of the degree of influence that is reported to help nurses to feel in control. According to the CHSRF (2001:10), the growing number of nurse shortages and the difficulty in replacing staff often implies that permanent staff are forced to work inconvenient shifts and more overtime. These permanent nurses can seldom control their shifts and hours when compared to agency staff, who have the opportunity to decide when they want to work. Although the participants in this study did not seem to be concerned with control over scheduling, they did mention one of the other factors that the CHSRF (2001:10) discussed under control over scheduling. Not knowing your partner (**refer to category 5**) emerged as a sub-category of **nursing human resources** and presented a serious threat to the participants' work environment. The CHSRF (2001:10) report on a similar findings in stating that the influx and regular use of agency staff due to the acute shortage and lack of permanent staff, often leaves units confronted with a disruption of nursing teams, decreased continuation of patient care and even dissuasion from the nursing profession altogether (CHSRF, 2001:10).

The final element of the degree of influence principle is reporting on nursing leadership. The CHSRF (2001:11) stated that effective nursing leadership and support structures increases group cohesion and contributes to the empowerment of nurses. This ultimately leads to a decrease in stress and turn over rates among nurses, providing supportive evidence for the empirical findings of **category 3, sound management**, discussed in Chapter 4, and the subscale *Nurse Manager Ability, Leadership and Support* of the PES-NWI referred to in Chapter 3 of this thesis.

The final element of a healthy work environment refers to the balance between effort and reward (CHSRF, 2001:12). Reporting on Siegrist's (1996, quoted by CHSFR, 2001: 12)

effort/reward model, the CHSRF concluded that when nursing staff perceive an imbalance between the efforts that they put in versus the reward that they receive, pathological emotional and physical reactions occur. Nursing as a profession is often underrated, leading to an inconsistency between effort and reward. There is a tendency for nurses to be viewed and view themselves as underpaid minions, and literature indicates that remuneration becomes an issue in the absence of other sources of satisfaction (CHSRF, 2001:12). Remuneration as reward for efforts was not explicitly stated by the participants in this research study. Instead, recognition of a job well done made nurses feel valued and important to the institution (**refer to category 3, sound management**).

Finally, the CHSRF concluded that nurses can be more productive if they work in a safe and ergonomically sound environment in which they have access to the necessary supplies, services and technology that they need to improve their efficacy and work life development, which in turn reduces their stress (CHSRF, 2001:14). This supports the empirical findings of **categories 2 and 7** where the participants talked about how an **environment built with nurses in mind** contributed to them **being in control**.

### 5.3.2.2 The Registered Nurses Association of Ontario

Extensive research on healthy work environments has been done by the Registered Nurses Association of Ontario (RNAO, 2006a). The RNAO (2006a:12) recognises that the work environment of the nurse is a complex and multidimensional environment that is comprised of several components and relationships between the components. With this in mind, the association has developed a comprehensive model, the Conceptual Model for Healthy Work Environments for Nurses, to develop, implement and evaluate the work environment of nurses (illustrated as Figure 5.1). The model also served as the theoretical assumption for this study, providing a point of departure and guidance for the logic and comprehensive discussion of the data collected to describe the demographic profile of the units that participated in this study, as well as the perceptions of critical care nurses on their current practice environment (refer to Chapter 3).

Comprising of physical/structural policy components, professional/occupational components and cognitive/psycho/socio/cultural components, the model presents a healthy

work environment as a product of the interdependence among the individual work context at a micro level, organisational context at a meso level and external system determinants at a macro level (RNAO, 2006a:13). The nurse, patient, organisation system and society are described as the beneficiaries of a healthy work environment and are located at the centre of the model. The synergistic interaction among all levels and components of the model – illustrated by the dotted lines – suggests continuous interaction between the individual and his/her environment and the influence each has on the other. The RNAO (2006a:13) concluded that interventions aimed at promoting a healthy work environment must focus on multiple levels and components of the system.

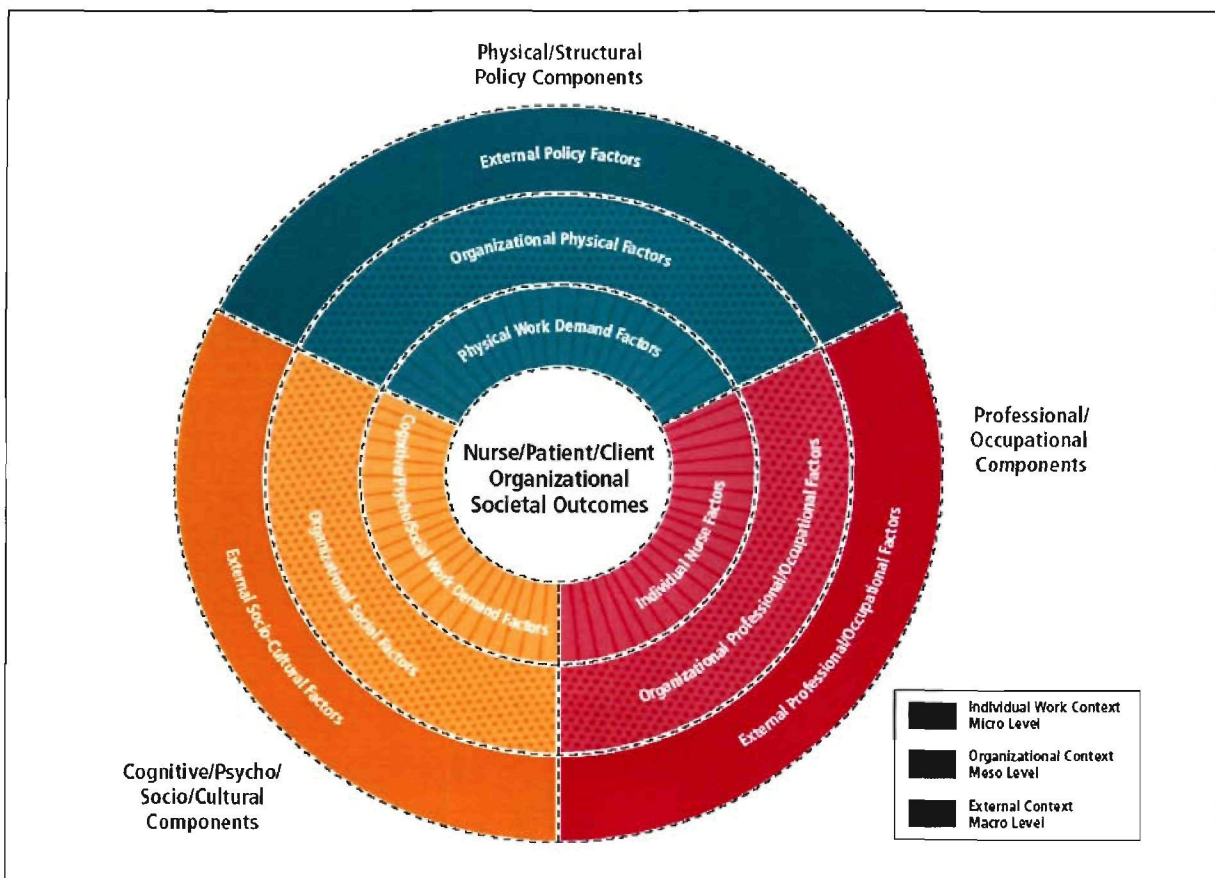


Figure 5.1: The Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006a:14).

In their definition of a healthy work environment for nurses, the RNAO (2006a:12) described it as a “practice settings that maximize[s] the health and well-being of the nurse, quality patient/client outcomes, organisational performance and societal outcomes”. This definition is similar to that of Robinson (2001:411), who was of opinion that a healthy work environment is an environment that is structured through policies, procedures and systems and that allows its employees to achieve personal as well as organisational goals.

In order to bring about a change in nurses’ work environments, the RNAO (2006a:11) has developed six best practice guidelines. These six guidelines include:

- Collaborative practice among nursing teams.
- Developing and sustaining effective staffing and workload practices.
- Developing and sustaining nursing leadership.
- Embracing cultural diversity in health care: Developing cultural competence.
- Professionalism in nursing; and
- Workplace health, safety and well-being of the nurse.

Given the all-embracing discussion of the development of these guidelines and their comprehensiveness in addressing aspects of a healthy work environment, a brief description of the background context of each of the guidelines as it applies to the phenomenon under investigation will be described in the paragraphs that follow.

*Collaborative practice among nursing teams* focuses on nursing teams and processes that foster healthy work environments (RNAO, 2006b:21). Recognising that nursing is about relationships and that the quality of those relationships directly impact on the care that patients receive and the job satisfaction of nurses, the RNAO (2006b:19) developed this set of guidelines to maximise excellence in teamwork within nursing. According to the RNAO (2006b:19), each nurse adds to “breaking down” or “building up” his/her practice environment. In light of the difference in expectations and assumptions amongst members of the healthcare team, effective teamwork and collaboration within the ever-changing healthcare context depends on understanding each other. With the increased evidence in support of the benefits of effective teamwork for the quality of patient care, the RNAO

(2006b:19) concluded that there is a pressing need for nurses to become skilled teammates and team leaders. The importance of teamwork in creating a positive practice environment was stressed by the empirical evidence presented in **categories 5 and 6** described in chapter 4 of this thesis.

The second principle, known as *developing and sustaining effective staffing and workload practices*, focuses on the numerous factors that have to be considered when addressing staffing and patient care assignments in nursing. According to the RNAO (2006c:19), current workload assignments in nursing often exceed nurse numbers and competencies, contributing to a stressful and unpredictable environment (supported by the evidence described under **categories 4, solid knowledge base; 5, nursing human resources; and 7, being in control**). As mentioned in earlier paragraphs, the disequilibrium that exists between nursing numbers and workload often leads to negative outcomes for patients and nurses (Aiken *et al.*, 2002 RNAO, 2006c:20). Solutions to the questions surrounding nursing numbers and the allocation of nurses to patient care assignments have been investigated since the time of Florence Nightingale (RNAO, 2006c:19). Given the fact that a shortage of nurses contributes to the creation of a stressful work environment, ultimately leading to decreases in the quality of patient care and job satisfaction among nurses, the RNAO developed a set of guidelines for staffing and workload practices that not only fosters healthy work environments but also better outcomes for nurses.

The third principle, *developing and sustaining nursing leadership*, emphasises the importance of leadership behaviour in the creation of a healthy work environment. Although these guidelines address context-specific issues such as dramatic reductions in formal leadership positions in nursing in Canada, the importance of recognising the role of leadership in mentoring, supporting and guiding staff closely resonate with the findings presented under **category 3, labelled sound management**, in this thesis. The RNAO (2006d:17) concluded that the quality of nursing leadership has been linked with achieving good patient care and with the recruitment and retention of nurses, thus confirming the findings of the “Magnet” hospital studies that identified the quality of nursing leadership as one of the forces of magnetism (refer to Table 5.1).

*Embracing cultural diversity in healthcare by developing cultural competence* represents the fourth guideline set forward by the RNAO (2006e:17) for creating a healthy work environment for nurses. Recognising the diversity brought about by globalisation in cultural norms, traditions, values and beliefs, the RNAO (2006e:17) provides a set of recommendations aimed at creating a truly integrated healthcare workforce that contributes to the creation of a positive practice environment. Although not directly addressed by the participants in this research study, the South African population is a cosmopolitan of different ethnic groups and cultures. Creating a practice environment that embraces cultural diversity is essential for quality healthcare and the retention of a productive and satisfied team of health care professionals (RNAO, 2006e:18), ultimately leading to positive outcomes for patients, nurses and the organisation.

*Professionalism in nursing* represents the fifth guideline and refers to the attributes that nurses apply to their daily work (RNAO, 2006f:21). These attributes include knowledge based on scientific principles, accountability, autonomy, inquiry, collegiality, collaboration, innovation and ethics and values (RNAO, 2006f:21). In creating a healthy work environment, nurses are required to demonstrate adherence to professional standards and the attributes of professionalism when caring for patients and collaborating with members of the multi-disciplinary team. Having a body of knowledge that is theoretical, practical and scientific in nature and being able to apply that knowledge in a culture of life-long learning reflects some of the concepts described by the participants in this research study, thus supporting the importance of professionalism in a positive practice environment (refer to **category 4, solid knowledge base**).

*Workplace health, safety and well-being of the nurse* denote the final guideline in addressing the creation of a healthy work environment for nurses. Similar to the description of the CHSRF (2001:6) regarding the principle of predictability in workplace safety, the RNAO (2006g:19) also addresses issues related to occupational stress and injury that negatively impact on the health, well-being and quality of work-life of nurses. Referring to more than the occupational health and safety of nurses' work environments, the guidelines includes suggestions regarding the physical design and organisational culture of the work environment, the individual nurses' health practices and the legislative

requirements of employers regarding occupational health and safety (RNAO, 2006f:22). Several of the recommendations contained in the guideline, such as creating a work environment that has the fiscal and human resources to match the demands of the work environment, were also addressed by participants in this research study (refer to **category 2, environment built with nurses in mind**). Interestingly, the provision of ongoing training and education programmes to ensure that staff have up-to-date knowledge, and providing opportunities for personal and professional growth, also emanated from the empirical findings in **category 4**, labelled as a **solid knowledge base**.

### 5.3.2.3 The International Council of Nurses

According to a report by Bauman (2007:1), for the International Council of Nurses, a positive practice environment can be defined as “an environment that support[s] excellence and [has] the power to attract and retain nurses”. As committed professionals who embrace a holistic philosophy of care, professional nurses call for a practice environment that acknowledges the social and health mandate of their discipline and the scope of their practice as regulated by the relevant statutory body (Bauman, 2007:5). The benefits of a positive practice environment are well documented in the information and action tool kit developed by Bauman (2007) for the International Council of Nurses. These benefits include, among other things, higher retention rates of nursing staff that lead to better teamwork, an increase in the continuity of patient care, and, ultimately, improvements in patient outcomes and the quality of nurses’ work life. When there is a demonstrated commitment to *safety in the workplace*, nurses report higher levels of job satisfaction, resulting in decreased turnover rates, higher staff morale and increases in productivity and work performance as a whole. Factors such as communication, leadership and autonomy over practice allow nurses to feel respected and valued in their place of work, aiding in the overall satisfaction of employees. Finally, research conducted by Buchan and Calman (2004) indicated that nurses are attracted to and remain in environments where opportunities for professional advancement, autonomy and shared decision-making exist (Bauman, 2007; ICN, 2007a). Several of these benefits are similar to the concepts identified by participants as elements of a positive practice environment. Although not in the same order, the products of higher retention rates (**refer to category 5, nursing human resources and 6,**

**critical care family**) that include better teamwork, continuity in staff, and autonomy over practice were considered important contributing factors to **being in control (category 7)**.

When looking at the characteristics of a positive practice environment, the International Council of Nurses (ICN, 2007a) mentions several models applicable to the nurses' work environment, but specifically it refers to the work of Kristensen (1999) on social and psychological well-being and the six stressors related to individuals and organisations. These are the same principles described by the CHSRF (2001) as the required components of a healthy work environment. In addition to these principles, the ICN (2007a) also include the following elements as characteristics of a positive practice environment:

- Occupational health, safety and wellness policies that address workplace hazards, discrimination, physical and psychological violence and issues pertaining to personal security.
- Fair and manageable workloads and job demands/stress.
- Organisational climate reflective of effective management and leadership practices, good peer support, worker participation in decision-making, shared values.
- Healthy work-life balance.
- Equal opportunity and treatment.
- Opportunities for professional development and career advancement.
- Professional identity, autonomy and control over practice.
- Job security.
- Decent pay and benefit.
- Safe staffing levels.
- Support and supervision.
- Open communication and transparency.
- Recognition programmes; and
- Access to adequate equipment, supplies and support staff.

According to Bauman (2007:5), two considerations are relevant when examining the idea of a positive practice environment. One of these considerations refers to the characteristics of the environment (mentioned in the foregoing paragraphs) and the other the professional

identity of the nurse. As alluded to in section 5.3.2.1 of this chapter, the professional identity of a nurse provides a frame of reference for her thinking, action and interaction (Fagermoen, 1997:435), and when her practice environment lacks the necessary people, resources and structures to enable her to perform her duties, conflicts arise between the nurses' professional responsibility and the provision of adequate patient care (Bauman, 2007:6). This has the effect of increasing the pressure and intensity of the environment and leaving the nurse feeling helpless and out of control.

#### **5.3.2.4 American Association of Critical Care Nurses**

Perhaps a more appropriate definition and discussion of the elements necessary for the creation of a positive practice environment in critical care units can be found in the work of the American Association of Critical Care Nurses (AACN) and other authors with an explicit interest in critical care units. Given the overall aim of the study which was to construct a grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng, a closer look at what defines a critical care unit also seems appropriate at this time. To that end, the following paragraphs will focus on defining a critical care unit and discussing the elements necessary for creating a positive practice environment.

From the definitions provided in Chapters 1 (section 1.5.2.2.2) and 3 (section 3.2.2.1.1) of this study I concluded that a critical care unit is a designated area in a hospital in which critically ill patients are cared for by a team of specialised members of a multi-disciplinary team. The critical care unit is designed to provide comprehensive care to critically ill patients and contains complex multi-system life support equipment such as mechanical ventilation, renal replacement therapy, inotropic support and invasive cardiovascular monitoring (Gillespie *et al.*, 2006:52). Furthermore, critical care units typically have staffing and other structures that differ from those in the ward (Schmalenberg & Kramer, 2008b:459) and patients admitted to these units require a constant 24-hour bedside presence of a nurse. During this period the nurse is typically responsible for numerous concurrent patient interventions that require complex clinical decision-making (Rischbieth, 2006:398).

As mentioned in Chapter 1 (section 1.2), the critical care environment certainly provides a challenge to many nursing professionals but also carries the risk of a high nurse turn over rate due to the intensity and pressure associated with caring for patients in these units. As such, the provision of an environment that supports professional excellence and ensures that each nurse reaches her personal as well as professional goals is paramount. According to Robinson (2001:411), the creation of a positive practice environment where critical care nurses can practice their profession is a daunting but essential challenge.

In their report on the types of intensive care units with the healthiest practice environments, Schmalenberg and Kramer (2008b:459) reported that the structural elements and attributes of CCU's that are linked to healthy practice environments include: a physical layout that allows constant observation and immediate access to patients, a high level of rapidly developing technology, competent and experienced nurses, a low nurse-to-patient ratio, longevity of contact between nurses and physicians, and a high degree of medical specialisation, echoing many of the concepts described by the participants in **categories 2, environment built with nurses in mind; 4, solid knowledge base; 5, nursing human resources; and 6, critical care family.**

Following the repeated reports of grave concern regarding the deterioration of the practice environments of critical care nurses in the United States of America, the American Association of Critical Care Nurses (AACN) responded to the call for change by developing six standards for establishing and sustaining healthy work environments (AACN, 2005:188). Recognising the inextricable link that exists between the quality of work environments, excellent nursing practice and good patient care outcomes, these six standards represent evidence-based and relationship-centered principles of professional performance (AACN, 2005:188). Each of the standards is considered essential and interdependent, and although they are neither detailed nor exhaustive, effective and sustainable outcomes do not emerge when any of the standards are regarded as optional (AACN, 2005:189; Schmalenberg & Kramer, 2007b:459).

The standards are also considered to complement and support the American Nurses Association's Code of Ethics for Nurses, the Institute of Medicine recommendations, the

elements of a healthy work environment as determined by the Nursing Organisation Alliance, the recommendations from the Joint Commission on Accreditation of Healthcare Organisations and the attributes of organisations receiving “Magnet” designation (Ulrich *et al.*, 2006:46). A concise discussion of each of the standards are presented in the paragraphs that follow.

The first standard, **skilled communication**, refers to the integration of the specialised knowledge and skill of nurses, physicians and other members of the multi-disciplinary team to ensure optimal patient care, supporting the empirical findings presented under **categories 4 (solid knowledge base) and 6 (critical care family)**. Intimidating behaviour and deficient interpersonal relationships lead to mistrust, chronic stress and dissatisfaction among nurses. This breakdown in team communication is considered a top contributor of adverse events in patient care (AACN, 2005:190). Pursuing and fostering **true collaboration** that will ensure joint communication and decision-making between nurses and other members of the multi-disciplinary team must be the norm (supporting **category 6, critical care family**). To that end almost 90% of the AACN’s members agreed that true collaboration with physicians and administrators are amongst the most important elements in creating healthy work environments. Mutual respect for each others’ unique knowledge and abilities, together with a mutual concern for optimal patient care, are key organisational elements in attracting and retaining nurses (AACN, 2005:191). Valuing nurses as committed partners in **effective decision-making** ensures that nurses fulfil their roles as patient advocates. In light of the fact that most members of the multi-disciplinary team assign the primary responsibility for patient safety to the nurse, it is imperative that he/she be part of the decision-making team (AACN, 2005:191). As part of real decision-making, nurses must be allowed effective control over their practice, especially considering that they provide high quality nursing care and are accountable for their own practice (supporting **category 3, sound management**). The absence of professional care models that support autonomous nursing practice often lead to dissatisfaction among nurses and a subsequent high turnover rate (AACN, 2005:191).

**Appropriate staffing** signifies the fourth standard in establishing and sustaining healthy work environments and is considered one of the most important elements in patient safety

and the well-being of nurses. As alluded to in earlier paragraphs, staffing is a complex process that aims to match the need of the patient with the knowledge and skill of the nurse assigned to caring for that patient. With the continuous fluctuation in the conditions of critically ill patients, flexibility of nurse staffing that goes beyond pre-determined calculations is imperative (AACN, 2005:192). Appropriate staffing is also of particular relevance to the safety of patients in these units as indicated by Aiken *et al.* (2002) in their study of hospital nurse staffing and patient mortality, where the authors found a significant decrease in patient mortality with higher nurse-to-patient ratios, and better patient outcomes when patient were cared for by better educated nurses. With the acute shortage of nurses in specialised units, agency nurses or nurses from other departments are often sent to assist in critical care units. In a study conducted by Friese (2005:766) on nurse practice environments and outcomes in oncology nursing, the author concluded that the erosion of a specialised team of nursing professionals to deliver and manage highly sophisticated therapies may further result in poorer quality of care for patients. Appropriate staffing as described by the AACN (2005) supports the empirical findings presented under **categories 4 (solid knowledge base)** and **5 (nursing human resources)** of this study.

The fifth standard relates to **meaningful recognition** and emphasises the importance of recognising and valuing the meaningfulness of nurses as a requisite for personal and professional development, supporting the observed evidence described under **category 3**, known as **sound management**. Lack of recognition leads to nurses feeling invisible, undervalued, unmotivated and disrespected (AACN, 2005:193). Another important aspect of recognition is that it must be congruent with the person's contribution, as recognising a person's efforts only has meaning when it is relevant to the person being recognised. The final standard, **authentic leadership**, is imperative to the creation of a positive practice environment. According to the AACN (2005:193), effective leaders are particularly important to the creation of a healthy work environment. To that end nurse leaders must be skilled communicators, team builders, agents for positive change, committed to service, results-oriented and role models for collaborative practice (AACN, 2005:193).

While investigating healthy work environments from the perspectives of staff nurses in the United States of America, Kramer and Schmalenberg (2008:56-63) noted that nurses identified 8 of the 37 original characteristics of “Magnet” hospitals as essential elements of a healthy work environment. The authors labelled these 8 attributes “the Essentials of Magnetism (EOM)” and subsequently compared them to other healthy work environment models developed by the AACN, the American Organisation of Nurse Executives and the American Nurses’ Credentialing Centre (Magnet Recognition Program). From the comparison, Kramer and Schmalenberg (2008:57) noticed that the attributes of a healthy work environment identified by the staff nurses was remarkably different to those cited by the three professional organisations. The eight attributes of a satisfying and productive work environment that were identified by the nurses is illustrated in Table 5.3.

Table 5.3: Essentials of Magnetism (Kramer & Schmalenberg, 2008:57)

<b>Work with other nurses who are clinically competent</b>
<b>Collegial/collaborative nurse-physician and interdisciplinary relationships</b>
<b>Autonomy, clinical decision making</b>
<b>Supportive nurse managers</b>
<b>Control of nursing practice</b>
<b>Support for education</b>
<b>Perception that staffing is adequate</b>
<b>Culture in which concern for the patient is paramount</b>

The only attribute that seemed more or less consistent across the organisations and the nurses seemed to involve leadership (Kramer & Schmalenberg, 2008:58). There was, however, a considerable difference in the focus, with most of the professional organisations looking at the dynamics and quality of leadership, whilst the nurses focused on one specific function, namely, support, echoing the findings presented under **category 3 (sound management)**. According to Kramer & Schmalenberg (2008:58), two of the other attributes on which the nurses and organisations differ are education and interdisciplinary relationships. Whilst the professional organisations focused on providing educational programmes and opportunities, the nurses seemed more concerned with having time off to

study and competent staff to care for patients in their absence. With regards to interdisciplinary and nurse-physician relationships, the nurses in the study seemed to be concerned with not only the presence of such a relationship but also the attributes thereof, referring to the presence of mutual trust, power and respect between all involved (Kramer & Schmalenberg, 2008:58), thus confirming the observable evidence presented under **category 6 (critical care family)** of this study.

In describing the process of measuring healthy work environments, Kramer and Schmalenberg (2008:59) refer to a structure-process-outcomes model described by Donabedian (1980) as a useful tool in evaluating the quality of healthcare systems and patient care. According to the authors, structure in this model represents “having the right things in place”; process refers to “doing things right”; and the outcome that will result from these two factors is “having the right things happen”. This model is linear and unidirectional in nature, implying that structure facilitates process which in turn leads to outcomes (Kramer and Schmalenberg, 2008:59). When looking at the core conceptual category that emerged during the analysis of the data in Chapter 4, one can see how this model can represent the causal link that exists between **categories 1- 6** (having the right things in place) in order for nurses to do things right so that the right things will happen (**category 7**). A healthy work environment can therefore only be achieved if the sum of all the factors that influence satisfaction and job performance are present (Kramer & Schmalenberg 2008:59).

Kramer and Schmalenberg (2008:62) concluded that establishing baseline confirmation of the status of the work environment of nurses is an important step in achieving the next objective: improving the work environment of these nurses. In exploring and describing the perceptions of critical care nurses regarding their current practice environment using the PES-NWI (Lake, 2002) and from the observable findings presented by the individual interviews, I was able to determine not only the current status of their practice environment but also the elements considered relevant to the creation of a positive practice environment. The remarkable difference in opinion regarding the elements of a healthy work environment presented in the foregoing paragraphs is evidence that the most appropriate individuals to identify the solution to a problem are the experts working in the environment, thereby supporting the decision to construct a theory grounded in the data.

Nurses are important human capital in the context of the critical care environment and efforts to invest in their environment seem crucial given the fact that the critically ill patient ultimately depend on the excellence of their work performance. No matter what adjective is used to modify the practice environment of critical care nurses, the elements of that environment all seem to focus on the inextricable link between the nurse, patient and the quality of the work environment.

## **5.4 CONCLUSIONS**

From the review of the literature, I deduced a number of conclusions which I have grouped into coherent sub themes for the sake of their integration with the conclusions from earlier chapters.

### **5.4.1 About the beneficiaries**

- The practice environment of the nurse is complex, multi-dimensional and comprises several components and relationships among these components.
- Nurses, patients, organisation systems and society are considered to be the beneficiaries of a positive practice environment.
- There is an inextricable link between patient outcomes, nurse outcomes and the practice environment of the nurse.
- A positive practice environment is essential to ensure the safety of patients, effective recruitment and retention of the nursing workforce and optimal organisation and system performance.
- A positive practice environment that supports professional excellence and ensures that the nurse's personal as well as professional goals are achieved, is paramount.

### **5.4.2 Nursing human resources, staffing and knowledge**

- A shortage in nurse staffing numbers has a direct impact on the quality of patient care and contributes to the high levels of stress that nurses experience, often leading to nurse burnout and job dissatisfaction.

- The use of agency staff leads to a disruption of nursing teams and a decrease in the continuation of care in patients. Not knowing each other contributes to the stress of the nurses' work environment and discouragement by the profession.
- An increase in the workload of nurses coupled with a skill and knowledge deficit and insufficient resources in terms of infrastructure and nursing numbers, increases the pressure of the nurses' work environment and can lead to complications and poorer patient outcomes.
- Working with nurses who are clinically competent and have enough nurses to care for patients leads to a better quality of patient care and contributes to the creation of a positive practice environment.
- The erosion of teams of specialised nurses to care for critically ill patients may result in poorer quality of patient care.
- Current workload measures used to determine nurse-to-patient ratios do not consider the medical and nursing complexities of patients, resulting in inadequate nurse numbers and competencies, thus increasing the workload and stress of the nurse.

#### **5.4.3 Leadership and management**

- Social support from supervisors and managers seems to reduce stress among nursing staff, increasing their levels of satisfaction with their work load and career opportunities.
- A manager that creates opportunities for professional development and a career path and who supports nurses' control over their practice is considered to be an important element in creating a positive practice environment.
- Effective leadership that supports mentors and guides staff increases group cohesion, and is linked with good patient care and better recruitment and retention of nurses.
- Recognition from management for a job well done is an important consideration for creating a positive practice environment and adds to nurses feeling valued and important to the organisation.

#### **5.4.4 The multi-disciplinary team**

- Acts of verbal abuse among members of the multi-disciplinary team lead to mistrust, chronic stress and dissatisfaction among nurses.
- Collaboration and open communication channels between nurses and physicians are considered crucial in ensuring quality nursing care and is a vital component of a positive practice environment.
- Nursing is about relationships and effective teamwork, collaboration and open communication between members of the multi-disciplinary team is considered vital to creating a positive practice environment.
- The integration of specialised knowledge together with skilled communication is vital to ensure optimal patient care and a positive practice environment.

#### **5.4.5 Professional identity**

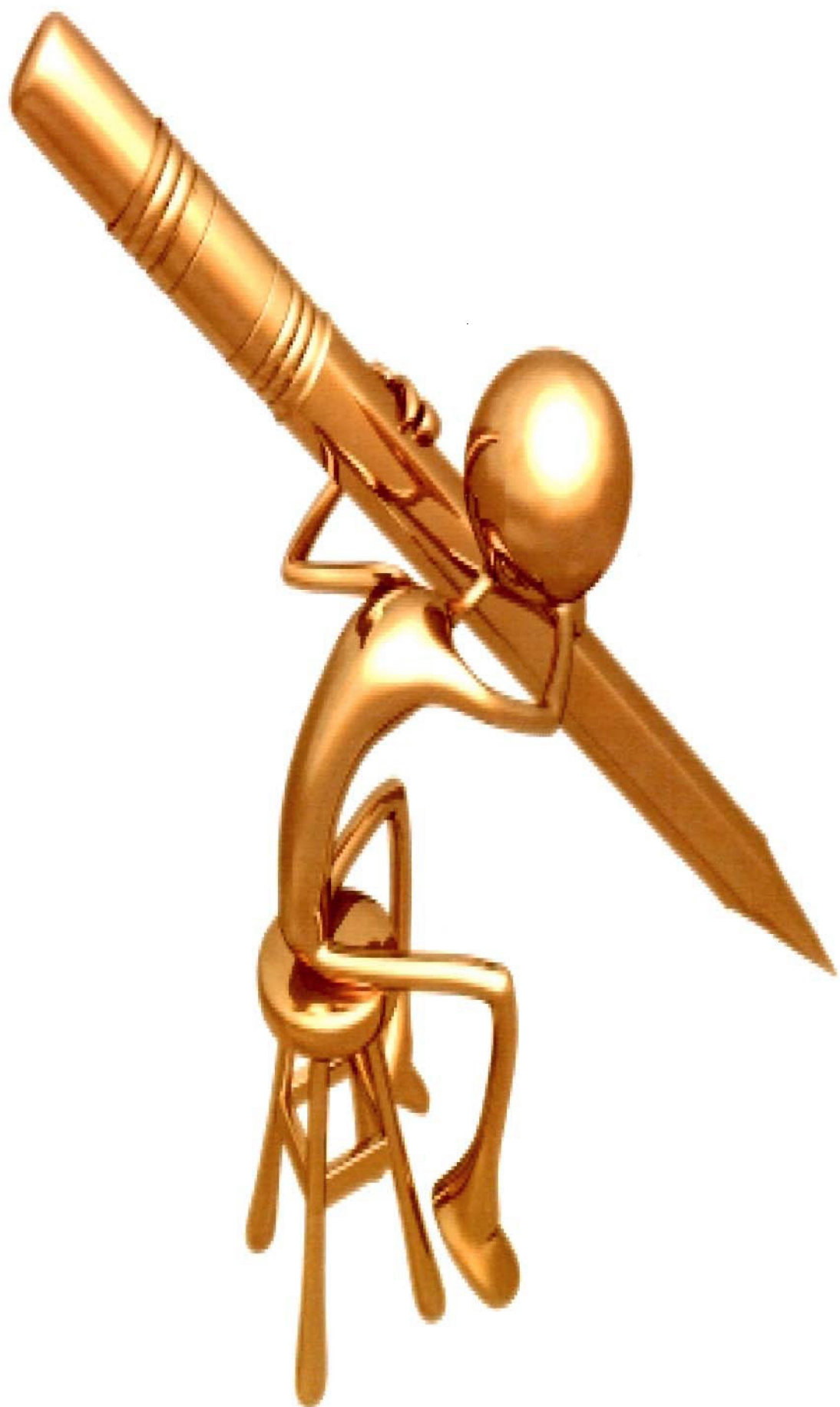
- A professional identity that conforms to the nurses' philosophy and allows her to do her work because of her passion for and interest in it is considered important to how nurses find meaning in their work.
- Professional role clarification and having control over one's own practice add to the nurses' sense of being in control, and makes them feel valued by and committed to the organisation.
- Embracing cultural diversity and creating an integrated healthcare workforce that respect different cultures, values, norms and beliefs contribute to a positive practice environment.

#### **5.4.6 Infrastructure and resources**

- A safe and ergonomically sound environment with resources that match the demands of work makes nurses feel safe, reduce stress and add to their sense of being in control.
- A physical layout that allows for constant observation and immediate access to the patient coupled with high levels of rapidly developing technology, competent and experienced nurses, low nurse-to-patient ratios, longevity of contact between physicians and nurses, and high degree of medical specialisation are considered to be the elements of a healthy work environment in critical care units.

## 5.5 SUMMARY

The review of the literature in this chapter concluded step 6 of the theoretical sampling of the research process. I have provided a comprehensive overview of the current evidence that exists whilst at the same time integrating the literature and empirical findings of the research study. Several of the characteristics thought to contribute to the creation of a healthy work environment or positive practice environment were found across the descriptions provided by different organisation. The similarities between existing literature and the empirical findings of this study were therefore integrated into a set of concluding statements presented at the end of the chapter that will be used in constructing the theory in chapter 6 of the thesis.



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**CHAPTER 6**

THEORY CONSTRUCTION AND EVALUATION

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## 6.1 INTRODUCTION

In this chapter I present the reader with an overview of the final steps described under the selective coding of the data in order to integrate and refine the categories of this study. Following the identification of the core category and related categories in chapter 4 and the subsequent review of the literature in chapter 5, I now move on to present a grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng at a theoretical level. To present the constructed theory at a theoretical level, I will provide the reader with a visual overview of the theory (refer to Figures 6.1 and 6.2), as well as a description thereof that includes the assumptions, purpose, context and structure of the theory. The concepts related to the study and their conceptual specifications (referring to the operational meanings derived from the data) as well as the theoretical relationships between the concepts will be discussed as part of the synthesis of the theory. The chapter will conclude with an evaluation of the acceptability of the evidence addressing the final step (step 8) of the research process as illustrated in Figure 2.2 in Chapter 2.

## 6.2 WRITING THE THEORY

### 6.2.1 Integration and refinement of the categories

Writing the theory represents step 7 of the research process as illustrated in Figure 2.2 in Chapter 2. When writing the theory, the researcher must provide a theoretical account of the phenomenon under investigation (Wuest, 2007:259) in describing how the core category addresses the problem at hand. Strauss and Corbin (1998:153, 217) recommend the use of diagrams for the more visually-orientated person as a method of integrating the concepts. Thus I decided to use diagrams as part of my memo-writing process (refer to Annexure L) to integrate the concepts generated from the coding of the data. During this process of integration, I was able to organise the major categories around a core conceptual category.

The core explanatory concept that emerged during the selective coding of the data was *being in control*. Nurses expressed *being in control* in terms of having a sense of awareness that leads to the ability to anticipate and prevent adverse events that may occur in the

critical care environment. In order to be in control the following six major categories (that relate to the core category) were identified:

- Professional identity.
- Environment built with nurses in mind.
- Sound management.
- Solid knowledge base.
- Nursing human resources; and
- Critical care family.

When any of the related categories were absent or perceived to be present but in too few quantities, the critical care nurse expressed feelings of being unaware that led to a sense of helplessness and contributed to the stress of the environment. When critical care nurses experience feelings of helplessness and stress they are said to be out of control and in a negative practice environment.

As part of the refinement of the theory, a tentative visual overview (Figure 6.1) and preliminary discussion of the theory was presented to an international audience for peer-reviewing at the 41<sup>st</sup> Biennial Convention of Sigma Theta Tau International. The suggestions obtained from colleagues at this convention, together with those from a consensus discussion with one of the participants, will be discussed in section 6.3 of this chapter. The suggestions and comments were taken into consideration during the formulation and subsequent refinement of the theory presented in Figure 6.2. A description of the final visual presentation of the theory with specific reference to the assumptions, purpose, context and structure is provided in the paragraphs that follow.

### **6.2.2 Description of the theory**

In describing a constructivist grounded theory for positive practice environments in CCUs in the private hospital sector in Gauteng an overview of the assumptions of the theory, the purpose of the theory, the context of the theory and the structure thereof is provided in the following paragraphs.

### **6.2.2.1 Assumptions of the theory**

The assumptions underlying a grounded theory for positive practice environments in critical care units are:

- There is an inextricable link between the critical care nurse, the patient and the organisation in creating a positive practice environment. These elements represent the key players in the theory.
- The critical care nurse, patient and the organisation are in constant interaction with each other and a change in any one of the key players will lead to a change in the other.
- Professional identity, an environment built with nurses in mind, sound management, solid knowledge base, nursing human resources and the critical care family represent the related categories and elements of a positive practice environment.
- In the presence of these elements, critical care nurses are aware, and can anticipate and prevent adverse events which lead to a sense of being in control. In the absence of any one of these elements, critical care nurses are unaware and feel helpless, which leads to stress and feelings of being out of control.
- Awareness, anticipation and prevention represent the key ingredients of being in control in a positive practice environment in critical care units.
- A positive practice environment in critical care units is the product of a dynamic process during which the critical care nurse might experience differing degrees of a positive practice environment. With these elements affecting and contributing to a positive practice environment in critical care units, a state of being in total control all the time might never be achieved.

### **6.2.2.2 Purpose of the theory**

The purpose of this theory was to identify the elements of a positive practice environment from the perspective of those most knowledgeable about the phenomenon. The elements of a positive practice environment included:

- Professional identity.
- An environment built with nurses in mind.
- Sound management.

- Solid knowledge base.
- Nursing human resources; and
- The critical care family.

The core conceptual category, which was *being in control* emerged as the single most important indicator of a positive practice environment to critical care nurses.

### **6.2.2.3 Context of the theory**

As stated in Chapter 3, the context of the theory is on three levels, namely: the macro context, meso context and micro context. The macro context in this study refers to the external environment of the critical care nurse, specifically to the private hospital sector in South Africa. The meso context is the hospital-specific or organisational context, while the micro context relates to the environment in the unit at an individual level. The three levels are mutually dependent and interconnected, meaning that a change in one level will impact on the other levels.

### **6.2.2.4 Structure of the theory**

As suggested by Strauss and Corbin (1998:153, 217; Chapter 2, section 2.4.4.2), I used diagrams or visual memos rather than written memos to describe the concepts and their relationships with each other at this stage of the research process. As such, Figure 6.1 represents the tentative visual presentation of a grounded theory for positive practice environments in critical care units. Figure 6.2 illustrates the final visual presentation following the review and consensus discussion. During the course of the following paragraphs a grounded theory for positive practice environments in critical care units is described in terms of the *definition of the concepts, the structural layout of the theory and relational statements.*

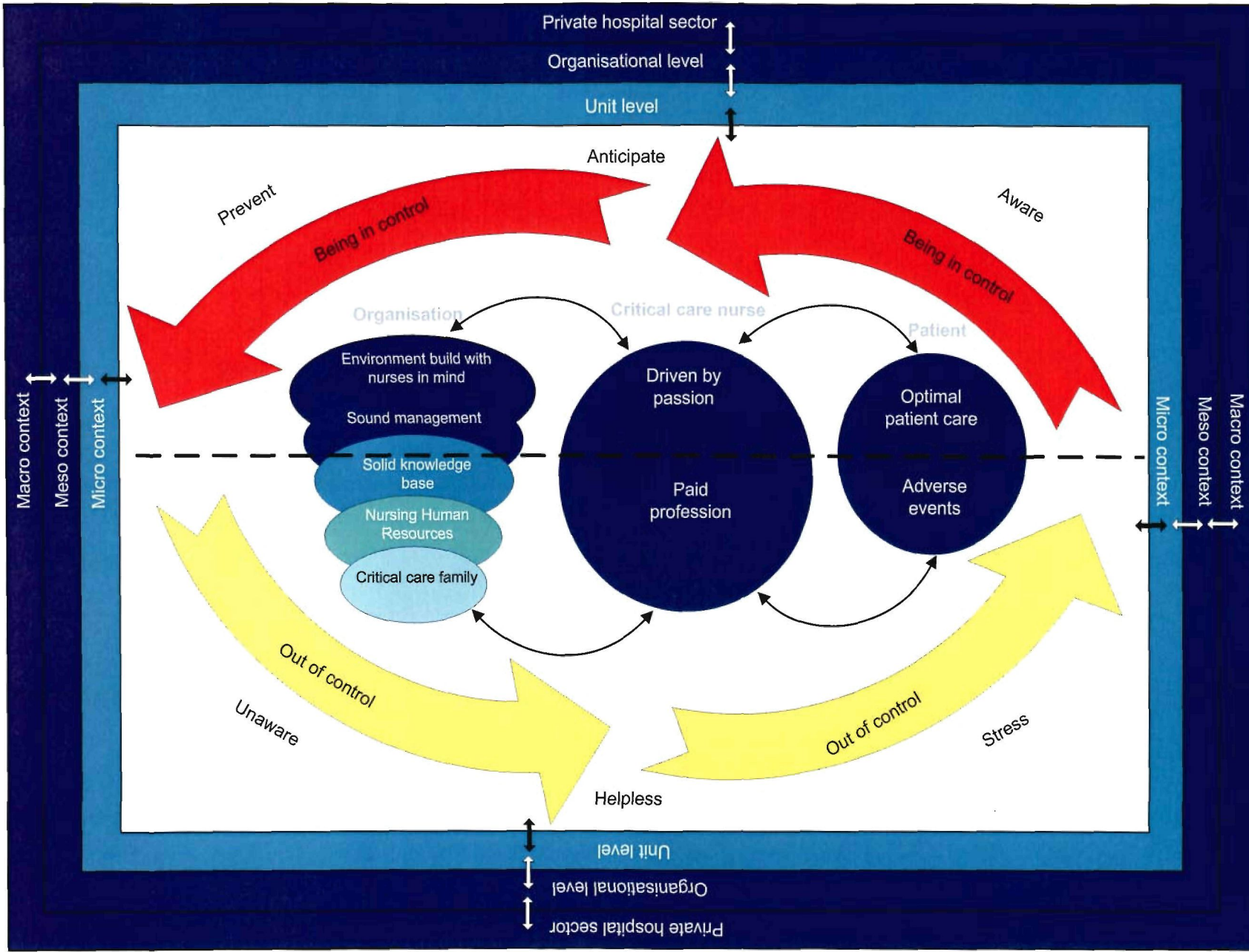


Figure 6.1: Tentative visual presentation of a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng.

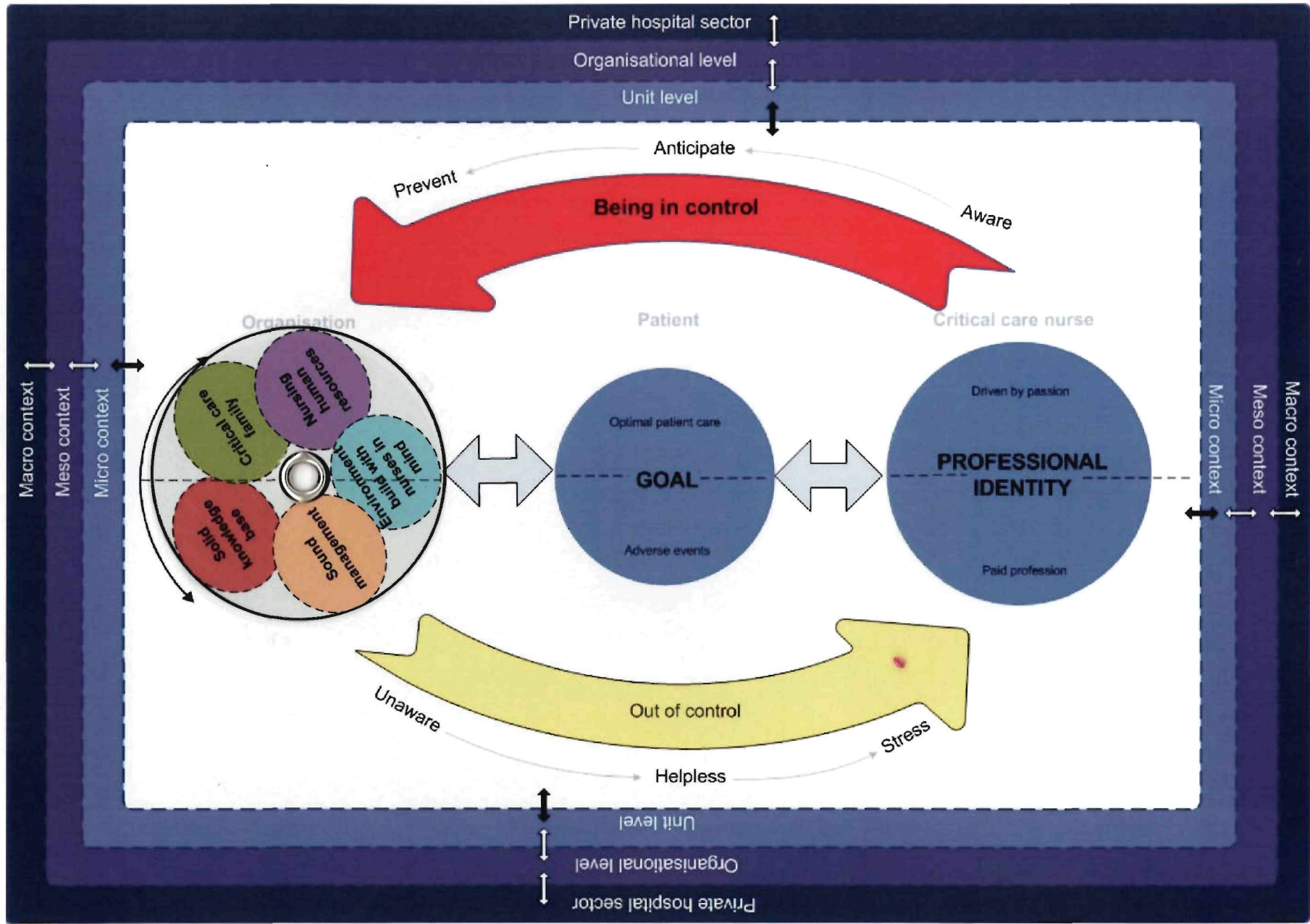


Figure 6.2: Final visual presentation of a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng.

#### 6.2.2.4.1 Definitions

Theoretical definitions are used to introduce the reader to the critical attributes of a concept and, although theoretical definitions are abstract and not measurable, they are essential for theory construction (Walker & Avant, 1983:17; Walker and Avant, 2005:27). Operational definitions, on the other hand, reflect the theoretical definitions but also include a set of empirical indicators or measurement specifications that can be used to identify the existence of the concept (Walker & Avant, 2005:72). According to Chinn and Kramer (2008:210), theoretical definitions emerge as the concepts of a theory are identified and conceptualised. Following the identification and conceptualisation of the concepts related to the study in Chapter 4, I present the following definitions as an outcome of the inductive analysis of the data discussed in Chapter 4 and the literature review discussed in Chapter 5.

- **Positive practice environment:**

A positive practice environment is an environment where the critical care nurse expresses a sense of being in control. Being in control is dependent on the presence of six elements identified by the nurses to contribute to the creation of a positive practice environment in critical care units. These elements include: professional identity, an environment built with nurses in mind, sound management, solid knowledge base, nursing human resources and being part of the critical care family. When these elements are present, the critical care nurse is aware, and able to anticipate and prevent possible adverse events in the unit, all of which contribute to the goal of the unit which is optimal patient care. In the absence of any one of these elements, the critical care nurse is unaware and feels helpless, leading to an increase in stress and a sense of being out of control which, in turn, results in a negative practice environment.

A positive practice environment is present when critical care nurses are aware, and can anticipate and prevent adverse events. Awareness, anticipation and the ability to prevent is dependant on the availability of six elements identified to contribute to the creation of a positive practice environment. These elements include: professional identity, an environment built with nurses in mind, sound management, solid knowledge base, nursing

human resources and a being part of the critical care family. The outcome of a positive practice environment includes being in control and providing optimal patient care.

- **Professional identity:**

Professional identity reflects the two major reasons why nurses work in critical care units. When nurses' passion for their profession is the reason for them being there, nurses consider their work as being meaningful and contributing to the creation of a positive practice environment. Working in the critical care unit simply because it is a paying profession reflects the attitude of nurses working in the critical care environment for the wrong reason. These nurses often do not cope with the pressure of the critical care unit, leading to a negative attitude among these nurses that contributes to a negative practice environment.

- **Environment built with nurses in mind:**

An environment built with nurses in mind focuses on the structural features and the attributes of the type of unit, and how these contribute to the creation of a positive practice environment in critical care units. A critical care unit that is ergonomically suited with everything in the right place and in enough quantities awakens a sense of pride and ambition in critical care nurses and supports their task at hand. Having a physical layout that allows for the constant observation of the patient facilitates nursing care and adds to the nurses' sense of being in control. A critical care unit with state of the art equipment that is functioning, modern and well maintained allows nurses to work smarter and increases the surveillance of patients. Critical care units functioning as closed units with a single physician, who is trained to look after critically ill patients, in charge of the unit ensures continuation of care, and a decrease in role confusion. An environment built with nurses in mind creates a space where the nurse feels safe and in control.

- **Sound management:**

Sound management at both the unit and hospital level plays an integral role in the creation of a positive practice environment in critical care units. Subsumed under management at a unit level, the unit manager's visibility, accessibility, effective communication, knowledge and skill play an important part in his/her role as a supportive and encouraging manager. A

knowledgeable shift leader who is familiar with the capabilities of the staff when assigning patient cases and who is available for training and support is another important feature of sound management. The final consideration for sound management reflects the importance of a management body at a hospital level that knows and understands the context of the critical care environment and acts as a cohesive group to protect and buffer the nurse. Involving nurses in the decision-making processes of the hospital and using their input to make changes in practice, management contributes to the creation of a positive practice environment.

- **Solid knowledge base:**

Appropriate training, standards of care, clinical knowledge, skills and competence and professional advancement are important considerations for a solid knowledge base in creating a positive practice environment in critical care units. Appropriate training where knowledge and skill development are context- and rank-specific contributes to high standards of care and adds to the nurses' confidence. Having suitably trained staff also decreases the pressure, intensity and workload in the critical care environment. The ever-changing and dynamic nature of knowledge in the critical care unit and a culture of life-long learning provide opportunities for professional advancement and play an important role in satisfying the ambition and drive of the critical care nurse, thus further contributing to a positive practice environment.

- **Nursing human resources:**

To have the right numbers in terms of nurse-to-patient ratios and knowing that each nurse in the unit is capable of caring for the patients assigned to her are important considerations under the category 'nursing human resources'. Nurse-to-patient ratios in critical care units must be based on an individual assessment of each patient and having enough permanent staff working in the unit decreases the workload, stress and pressure of the critical care environment.

- **Being part of the critical care family:**

The critical care family comprises all the members of the multi-disciplinary team working in the critical care environment. These members are partners in a reciprocal relationship that

is based on mutual trust and respect. Open communication and working towards the same goal are very important in providing optimal care to patients in these units and contributing to nurses' overall job satisfaction. Verbal abuse between members of the critical care family is destructive to the successful functioning of the family, as it can quench the passion and confidence that nurses have, and it can destroy the trust that necessarily exists between the members.

- **Being in control**

When nurses working in the critical care unit are there for the *right reason*, working in an *environment built with nurses in mind*, supported by *sound management* structures and a *solid knowledge base* with appropriate *nursing human resources as part of the critical care family*, they express a sense of being in control. Being in control is the single most important consideration for a positive practice environment in critical care units. The presence and availability of the six elements considered important to the creation of a positive practice environment allows the critical care nurse to be aware, and to be able to anticipate and prevent potential adverse events that add to the stress and intensity of the critical care environment.

#### **6.2.2.4.2 Structural layout of the theory**

In visually describing the theory, I use rectangular and circular structures to illustrate the elements of the theory. The relationship between the elements is demonstrated by means of linear structures that include lines and arrows. The theory is further presented in colour for the sake of clarification between the elements. The use of certain colours for the elements does not imply any particular meaning in terms of the concepts or the relationships between them, but the unidirectional arrows are purposefully colour-coded. Here red is used to illustrate the continuum that the nurse moves on in a positive practice environment, while the yellow arrow is indicative of the negative practice environment continuum. The following paragraphs provide a discussion of the structures used in the visual layout of the theory.

The context of the research study is represented by a combination of **rectangular structures**. The macro context, also referred to as the *private hospital sector*, the meso

context or organisational level, and the micro context or unit level, are illustrated by rectangles. The elements associated with the creation of a positive practice environment in critical care units are found in the innermost rectangle. The inner boundaries of the rectangular structures are dotted lines, representing the interdependence and interconnectedness between the contexts, and the outer boundary of the macro context is depicted by a solid line limiting the broader context to that of the private healthcare sector in South Africa.

The elements of a positive practice environment in critical care units in the study are represented by **circular structures**. Thus the core category and six related categories identified in this study appear as circular structures. The patient is also illustrated by means of a circular structure, symbolising the goal of a positive practice environment. The professional identity of the critical care nurse is represented by a circular structure divided by a dotted line: the top half represents the attribute (driven by passion) associated with a positive practice environment, while the bottom half represents the attribute (paid profession) associated with a negative practice environment.

The elements listed under the organisation are presented as overlapping circular structures with permeable boundary lines to illustrate the interconnectedness and relationship between the elements. In light of the dynamic nature of these elements and in order to illustrate how they continually move along the dotted line, the elements are presented on a structure that can physically turn on its own axis. Spinning on the axis, any of the elements can at any stage be found above or below the dotted line. When in the top half, the element is present, in the right quantities, and contributes to the creation of a positive practice environment in critical care units, while when in the bottom half it represents the opposite.

Found between the circular structures of the critical care nurse and that of the organisation, the patient embodies the goal of the elements of a positive practice environment in critical care units. Divided by a dotted line, the top half of this circle illustrates the positive outcome (optimal patient care) associated with a positive practice environment, while the

bottom half (adverse events) relates to the outcome found in a negative practice environment.

The **linear structures** in the visual presentation of the theory include the use of lines and arrows to illustrate the flow and direction of the theory as well as the relationships between the elements of the theory. The two-way arrows between the rectangular structures indicate the interdependence and interrelatedness between the different levels of the context and the elements of a positive practice environment in critical care units.

The core conceptual category is found in the unidirectional arrow located in the top half of the square containing the elements of a positive practice environment in critical care units. The unidirectional arrow located in the bottom half of the same square illustrates the opposite of the core conceptual category, labelled 'out of control'. A unidirectional arrow connects the words that represent the key ingredients associated with the core conceptual category.

The two-way arrows that stretch between the circular structure of the critical care nurse, the goal and the organisation indicate the connectedness of the elements associated with a positive practice environment in critical care units. The two-way arrow that appears on the left-hand side of the elements listed under the organisation indicates the movement of the elements around the dotted line that distinguishes between a positive and negative practice environment.

#### **6.2.2.4.3 Relational statements**

According to Strauss and Corbin (1998:145), the construction of a theory should aim to present the findings as a set of interrelated concepts and not simply a listing of themes. To that end, relational statements are abstracted from the data and reconstructed in order to represent the data from many cases as concepts and a set of statements that explain what is going on. According to Bester and Klopper (2008:227), the synthesis of these statements occurs when the researcher moves from the evidence to forming conclusions, and then generalises these conclusion onto more abstract levels.

To meet the expectations set by the authors, the description of the seven elements of the grounded theory would be adequate. However, as researcher I moved beyond this expectation, and continued to construct relational statements. In order to accomplish this, the IDLE™-method was used (Klopper, 2010). The IDLE™-method refers to “inductive and deductive logic evidence”. It is a process where logical reasoning is used, inductive and/or deductive, by generating conclusions from the empirical data and/or literature. The conclusions serve as evidence for the relational statements (Klopper, 2010).

An assumption of this method is that it is possible to distinguish correct reasoning from incorrect reasoning based on the arguments presented. The structure of an argument is the fundamental unit that is accepted or rejected and this proposition (or statement) is typically expressed as a declarative sentence (or called a conclusion) (Klopper, 2010). The premise and the conclusions are defined in relation to each other within a given argument (Kemerling, 2001 quoted by Klopper, 2010). An argument is differentiated from collective propositions by the inferences between the statements to draw a conclusion. The application of the IDLE™-method in this study is reflected in the formulation of relational statements from the conclusions of the empirical evidence and a subsequent review of the literature. The conclusions (refer to tables 6.1, 6.2, and 6.3) provide the “evidence” for the formulation of the relational statements. The IDLE™-method ensures rigour of the theory as an audit trail of the evidence of the reasoning process can be provided (Klopper, 2010).

Writing conceptually by making theoretical statements about the relationships between the concepts, rather than writing descriptive statements about people, is the dictum of a grounded theory (Glaser, 1978:133). Wuest (2007:259) adds that the pure descriptions of the data supported by numerous quotes are often the result of a lack of engagement with the data and the constant comparisons of incidents that are needed to identify the properties of the concepts and the theoretical relationships between them. By describing the relationships between the concepts found in the conclusions, the theory was synthesised and grounded in the data. The relational statements are presented in the section that follows and a cross reference between the relational statements and the conclusions are indicated in brackets:

- Increases in the workload of critical care nurses due to high occupancy rates and high bed turnover rates coupled with a skill and knowledge deficit and unfamiliar staff increases the stress and pressure of the nurses' practice environment often leading to complications and poor patient outcomes (cross referenced with conclusion nr: 2, 3, 5, 7, 51, 52, 76 and 79).
- The shortage of nurses, a doctor-centred approach, lack of knowledgeable staff, overworked and dissatisfied nurses lead to a negative practice environment (cross referenced with conclusion nr: 1, 4, 9 and 16).
- Considering the advances in medical technology and the continuous fluctuations in the condition of the critically ill patient, staff ratios cannot be based on predetermined calculations but rather an individual assessment of each patient (cross referenced with conclusion nr: 8, 49, and 50).
- Critical care units depend on adequate numbers of nurses and the current shortage of qualified and experienced nurses in these units directly impacts on the quality of patient care contributing to stress and job dissatisfaction among nurses (cross referenced with conclusion nr: 6, 13, 14, , 48, 74, and 75).
- Critical care nurses need an ergonomically sound environment that has the relevant and necessary infrastructure to provide them with a workable environment in which they feel safe and in control (cross referenced with conclusion nr: 23, 24, 29, 64, 91, and 92).
- Adverse events caused by staff shortages, a lack of supervision and support in critical care units contribute to a negative practice environment and can be avoided by modern and well maintained equipment and infrastructure that allows for the continuous observation of the patient by knowledgeable staff (cross referenced with conclusion nr: 10, 25, 26, 67 and 78).
- Management directly impacts on the practice environment of the nurse and must be familiar with the context of the critical care nurse to provide appropriate support, protection and recognition to nursing staff so installing a sense of ownership among nurses (cross referenced with conclusion nr:11, 15, 36, 37, 38, 39, 65, 82 and 83 ).
- A visible and accessible unit manager that has the necessary knowledge and skills contribute to the creation of a positive practice environment and reduce stress

among nurses, increasing their levels of job satisfaction (cross referenced with conclusion nr: 30, 31, 32 and 80).

- Staff shortages and the absence of a solid knowledge base are directly related to a negative practice environment that is associated with job dissatisfaction, burnout and high staff turnover rates (cross referenced with conclusion nr: 12, 17 and 47).
- Working in the critical care environment for the right reasons not only provides critical care nurses with ambition and drive but also contribute to a positive attitude in the unit resulting in a sense of pride and meaningful work for the critical care nurse. These nurses cope better with the stress of the environment and have a greater sense of being in control (cross referenced with conclusion nr: 18, 19, 20, 21, 22, 45, 63, 88, and 89).
- Nurse-physician relationships are an important consideration in a positive practice environment and must be based on open communication, mutual respect and trust. Verbal abuse and physicians without the relevant knowledge and skills contribute to nurses feeling unsafe and having a lower quality of work (cross referenced with conclusion nr: 27, 28, 56, 57, 58, 59, and 85).
- A solid knowledge base based on appropriate training that is context- and rank specific and often provided on the spot, positively contributes to optimal patient care by ensuring skilled and knowledgeable nurse practitioners that do not practice outside their scope of practice and provide high standards of care. Due to the dynamic environment of the critical care unit, the critical care nurse must have professional advancement opportunities and a career path that support her control over practice (cross referenced with conclusion nr: 33, 34, 35, 40, 41, 42, 43, 44, 46, 61, 66, 69, and 81).
- Because nursing is about relationships and critical care nurses have a multidimensional and coordinating role, collaboration and effective interaction with the multi-disciplinary team to ensure optimal patient care, is an important consideration for a positive practice environment. Embracing cultural diversity and working with an integrated healthcare workforce positively contributes to the practice environment of the critical care nurse (cross referenced with conclusion nr: 53, 54, 55, 60, 68, 84, 86, and 90).

- There is an inextricable link between the patient, the nurse and the organisation in the creation of a positive practice environment. A practice environment that support the effective recruitment and retention of nurses, professional excellence through the integration of specialised knowledge and skilled communication are vital to achieve the goal of a positive practice environment which is optimal patient care (cross referenced with conclusion nr: 70, 71, 72, 73, 77, and 87).

Table 6.1: Conclusions related to the context

<b>MACRO LEVEL: External context</b>	<b>MESO LEVEL: Organisational context</b>	<b>MICRO LEVEL: Unit context</b>
<p>1. There is an alarming shortage of nurses across both healthcare sectors in South Africa with unacceptable professional nurse to patient ratios.</p> <p>2. There is a noticeable increase in the provision of tertiary and specialist healthcare services in the private healthcare sector following the public healthcare sectors' shift from acute to primary healthcare.</p> <p>3. The private healthcare sector is a busy industry that is highly dependent on nursing staff to ensure the success of their operations.</p> <p>4. The private healthcare sector has an explicit doctor-centric approach that often leaves nurses feeling undervalued and unsupported by management.</p> <p>5. Nurses working in the private healthcare</p>	<p>6. Critical care units depend entirely on adequate and appropriate infrastructure and human resources.</p> <p>7. Gauteng province has the highest number of critical care units and beds and, considering that the private healthcare sector has the highest admission rate, the practice environment of nurses in this sector must be taxing.</p> <p>8. Considering the advances in medical technology and science, caring for the critically ill patient is a complex skill and requires specialist nurses.</p> <p>9. The current crisis in critical care units pertains not only to numbers, but also to a lack of knowledgeable staff.</p> <p>10. The low number of experienced nurses in critical care units coupled with staff shortages, lack of supervision and</p>	<p>11. Hospital managements' approach to resolving dilemmas of organisation and work directly impacts on the nursing practice environment.</p> <p>12. Negative practice environments are associated with job dissatisfaction, burnout, work-related injuries and high staff turnover rates.</p> <p>13. The practice environment of nurses working in private critical care units in Gauteng does not have enough staff and support resources in order to provide quality patient care.</p> <p>14. Nurses working in private critical care units in Gauteng are confronted with the challenges presented by an ageing nursing workforce and fewer qualified and experienced nurses.</p> <p>15. Nurses working in private critical care</p>

<p>sector are faced with an increase in occupancy rates and high bed turnover rates that subsequently increase the pressure of their work environment.</p>	<p>support, contribute to the occurrence of adverse events in these units.</p>	<p>units in Gauteng agreed that nursing management provided an environment that supported and recognised their achievements and demonstrated quality leadership.</p> <p>16. Overworked and dissatisfied nurses working in a negative practice environment resulting in poor patient care contributed to the cyclic effect of acute nurse shortages.</p> <p>17. Staff shortages are directly related to negative practice environments and these shortages will not be resolved until the practice environment is addressed.</p>
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Table 6.2: Conclusions related to the categories 1-4

<b>CATEGORY 1: Professional identity</b>	<b>CATEGORY 2: Environment build with nurses in mind</b>	<b>CATEGORY 3: Sound Management</b>	<b>CATEGORY 4: Solid knowledge base</b>
<p>18. Critical care nurses working in critical care units for the rights reasons exhibit a positive attitude to their practice environment and tend to look past the negative elements more easily.</p> <p>19. The conception of what it means to be a critical care nurse not only provides a basic frame of reference that guides the critical care nurses' thinking, actions and interactions, but also the way in which he/she perceives problems, goals</p>	<p>23. The structural features and unit attributes must provide a workable environment that facilitates nursing care in a safe compartment that awakes ambition and pride in nurses, leaving them with a sense of being in control.</p> <p>24. An ergonomically-suited environment provides nurses with enough space to move freely and has everything in the right place so that nurses can focus exclusively on the task at hand.</p> <p>25. Continuous and direct observation of patients is a</p>	<p>30. The unit manager plays an integral role in the creation of the atmosphere in the critical care unit, and therefore in the practice environment of the critical care nurse.</p> <p>31. The unit manager must be visible, accessible and committed to effective communication with the staff.</p> <p>32. The unit manager is a knowledgeable person that has the necessary knowledge and skills to understand the context in which his/her staff</p>	<p>40. A solid knowledge base depends on appropriate training, where the knowledge and skill development are context- and rank-specific, thus providing competency-based clinical development to the critical care nurse.</p> <p>41. Appropriate training follows a team approach that is uniform in nature and where the value of on-the-spot training is recognised as effective to reinforce knowledge.</p> <p>42. The product of a solid</p>

<p>and approaches.</p> <p>20. When the unknown passion is reaffirmed as the reason for being there, critical care nursing becomes more than just a paid profession.</p> <p>21. Nurses working in critical care units for the right reasons cope better with the stress of the environment and contribute to a positive attitude in the critical care unit.</p> <p>22. Nurses working in critical care units for the right reasons are often driven by the need for control, reflected in the desire to do things right all the time. This results in a greater sense of</p>	<p>serious consideration in the physical layout of the critical care unit and monitoring devices as well as support space (rest- and tearooms) must be designed - with full on bed views providing direct observation of the patient - in mind.</p> <p>26. Modern and well maintained equipment that allows nurses to work smarter and not harder by increasing surveillance of patients, results in lower levels of stress and adds to being in control of the environment and the task at hand.</p> <p>27. Closed units with a single physician approach ensure</p>	<p>functions. By knowing the work situation the unit manager can support and encourage staff thereby increasing job satisfaction.</p> <p>33. Because the shift leader works closely with the staff, he/she is expected to assign patient cases to nurses based on their capabilities.</p> <p>34. The shift leader needs to be sensitive to the different levels of knowledge and skills that staff have, and he/she must exhibit a culture of understanding towards staff.</p> <p>35. In order to provide support and be able to do on-the-spot teaching, the shift leader must be considered</p>	<p>knowledge base is a high standard of care supported by evidence-based practice. Standards of care depend on nurses and high standards contribute to a sense of pride.</p> <p>43. Optimal patient care depends on critical care nurses that have the relevant clinical knowledge and skills. Critical care nurses committed to being the best acknowledge the dynamic nature of knowledge and have a culture of life-long learning.</p> <p>44. Skilled and knowledgeable nurse practitioners are confident in what they do.</p>
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<p>pride and meaningful work for these nurses.</p>	<p>continuation of care and a decrease in the occurrence of role confusion between nurses and physicians.</p> <p>28. Physicians working in critical care units with the relevant knowledge and skills provide a supportive and safe environment to critical care nurses in the case of adverse events.</p> <p>29. An environment built with nurses in mind has the necessary and relevant infrastructure to provide critical care nurses with a safe haven in which to practice.</p>	<p>out of ratio.</p> <p>36. Management at hospital level that is familiar with the context of the critical care environment will understand the challenges of the unit and subsequently provide appropriate support.</p> <p>37. Creating a sense of value and importance by recognising and rewarding nurse efforts provide nurses with a sense of ownership and being part of a family.</p> <p>38. Management at hospital level acts as a cohesive group in protecting and buffering nurses by having their best interest at heart and negotiating on their behalf.</p>	<p>45. Critical care nurses have ambition and drive, and in light of the ever-changing and dynamic nature of knowledge, professional advancement plays an important role in personal and professional growth and development of staff.</p> <p>46. Institutions can contribute to the professional advancement of staff by providing opportunities to attend workshops and conferences.</p> <p>47. Pressure, intensity and workload of the critical care nurse are increased in the absence of a solid knowledge base because of the more</p>
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		39. Management at hospital level contributes to a positive practice environment by involving nurses in decision-making and using their input to make changes in practice.	frequent occurrence of adverse events.
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Table 6.2 (cont...): Conclusions related to categories 5-7

<p><b>CATEGORY 5:</b> <b>Nursing human resources</b></p>	<p><b>CATEGORY 6:</b> <b>Critical care family</b></p>	<p><b>CATEGORY 7:</b> <b>Being in control</b></p>
<p>48. Nursing human resources play an important role in creating a positive practice environment by reducing the stress and pressure associated with not having enough staff and staff not knowing each other.</p> <p>49. Staff ratios in critical care units cannot be based on predetermined calculations because of the continuous fluctuations in the condition of critically ill patients.</p> <p>50. Staff ratios must be based on the individual assessment of the patient, taking into consideration the severity of the patient's illness and adjusting ratios accordingly.</p> <p>51. Having enough staff is important, but knowing who one works with and being sure of their knowledge and skill is equally</p>	<p>53. Critical care nurses do not work in isolation; rather they collaborate and interact with various members of the multidisciplinary team to provide optimal patient care.</p> <p>54. Because of the critical care nurses' multidimensional and coordinating role, cohesive working relationships and cooperation built on trust and respect are important considerations for job satisfaction.</p> <p>55. Critical care nurses view themselves as a team that works towards one goal in which respect for each others decisions play an important role.</p> <p>56. Nurse-physician collaboration depends on open communication channels and physicians that respect nurses' decisions</p>	<p>61. Outcome-focused and safe healthcare delivery is a primary objective of critical care nursing.</p> <p>62. Being able to anticipate adverse events means that the critical care nurse has a greater awareness to detect and prevent events that contribute to the stress and intensity of the critical care environment.</p> <p>63. Nurses driven by passion and the need for control have the right reason for working in the critical care environment, implying that they cope better with the stress and have the desire to do things right all the time.</p> <p>64. An environment built with nurses in mind ensures that critical care nurses have a safe physical environment to practice in.</p> <p>65. Sound management that is familiar with</p>

<p>important.</p> <p>52. Staff unfamiliar to the unit often do not have the appropriate training to care for critically ill patients, thereby increasing the workload of the experienced staff and adding to the stress and pressure of the environment.</p>	<p>and trust their judgement.</p> <p>57. Critical care nurses still play the “nurse-doctor game”, and this can probably be attributed to the hierarchical system in which (predominantly male) doctors view themselves superior to (predominantly female) critical care nurses.</p> <p>58. Verbal abuse between by physicians humiliates nurses and destroys their passion and confidence.</p> <p>59. Physicians treating nurses as sub-standard professionals are destructive to organisations and damage the trust between physicians and nurses, contributing to the lower quality of work life for nurses.</p> <p>60. Members of the multidisciplinary team treat critical care nurses as a priority, probably because of the regular interaction between them and the fact</p>	<p>the context and challenges of the critical care environment has support systems in place that is relevant to the critical care nurse.</p> <p>66. A solid knowledge base ensure that nurses working in the critical care environment do not practice out of their scope of practice and have the relevant clinical knowledge and skills of critical care nursing and therapies.</p> <p>67. Nursing human resources ensure that there is enough knowledgeable staff (who are familiar with the unit) at hand to guarantee appropriate skill matching. When there are enough nurses with the right skill matching, nurses can better prevent adverse events that lead to feeling out of control.</p> <p>68. To be part of the critical care family implies that everyone works towards the</p>
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	that the multi-disciplinary team views nurses to be more closely aligned with scientific medical discourse	same goal, thus creating a safe and trusting environment to practice in.
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Table 6.3: Conclusions related to literature review (sections 5.4.1-5.4.3)

4.1 About the beneficiaries	4.2 Nursing human resources, staffing and knowledge	4.3 Leadership and management
<p>69. The practice environment of the nurse is complex, multi-dimensional and comprises several components and relationships among these components.</p> <p>70. Nurses, patients, organisation systems and society are considered to be the beneficiaries of a positive practice environment.</p> <p>71. There is an inextricable link between patient outcomes, nurse outcomes and the practice environment of the nurse.</p> <p>72. A positive practice environment is essential to ensure the safety of patients, effective recruitment and retention of the nursing workforce and optimal organisation and system performance.</p> <p>73. A positive practice environment that supports professional excellence and</p>	<p>74. A shortage in nurse staffing numbers has a direct impact on the quality of patient care and contributes to the high levels of stress that nurses experience, often leading to nurse burnout and job dissatisfaction.</p> <p>75. The use of agency staff leads to a disruption of nursing teams and a decrease in the continuation of care in patients. Not knowing each other contributes to the stress of the nurses' work environment and discouragement by the profession.</p> <p>76. An increase in the workload of nurses coupled with a skill and knowledge deficit and insufficient resources in terms of infrastructure and nursing numbers, increases the pressure of the nurses' work</p>	<p>80. Social support from supervisors and managers seems to reduce stress among nursing staff, increasing their levels of satisfaction with their work load and career opportunities.</p> <p>81. A manager that creates opportunities for professional development and a career path and who supports nurses' control over their practice is considered to be an important element in creating a positive practice environment.</p> <p>82. Effective leadership that supports, mentors and guides staff increases group cohesion, and is linked with good patient care and better recruitment and retention of nurses.</p> <p>83. Recognition from management for a job well done is an important consideration</p>

<p>ensures that the nurse's personal as well as professional goals are achieved, is paramount</p>	<p>environment and can lead to complications and poorer patient outcomes.</p> <p>77. Working with nurses who are clinically competent and have enough nurses to care for patients leads to a better quality of patient care and contributes to the creation of a positive practice environment.</p> <p>78. The erosion of teams of specialised nurses to care for critically ill patients may result in poorer quality of patient care.</p> <p>79. Current workload measures used to determine nurse-to-patient ratios do not consider the medical and nursing complexities of patients, resulting in inadequate nurse numbers and competencies, thus increasing the workload and stress of the nurse.</p>	<p>for creating a positive practice environment and adds to nurses feeling valued and important to the organisation.</p>
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Table 6.3 (cont...): Conclusions related to literature review (sections 5.4.4-5.4.6)

4.4 The multi-disciplinary team	4.5 Professional identity	4.6 Infrastructure and resources
<p>84. Acts of verbal abuse among members of the multi-disciplinary team lead to mistrust, chronic stress and dissatisfaction among nurses.</p> <p>85. Collaboration and open communication channels between nurses and physicians are considered crucial in ensuring quality nursing care and is a vital component of a positive practice environment.</p> <p>86. Nursing is about relationships and effective teamwork, collaboration and open communication between members of the multi-disciplinary team is considered vital to creating a positive practice environment.</p> <p>87. The integration of specialised knowledge together with skilled communication is vital to ensure optimal patient care and a positive practice environment.</p>	<p>88. A professional identity that conforms to the nurses' philosophy and allows her to do her work because of her passion for and interest in it is considered important to how nurses find meaning in their work.</p> <p>89. Professional role clarification and having control over one's own practice add to the nurses' sense of being in control, and makes them feel valued by and committed to the organisation.</p> <p>90. Embracing cultural diversity and creating an integrated healthcare workforce that respect different cultures, values, norms and beliefs contribute to a positive practice environment.</p>	<p>91. A safe and ergonomically sound environment with resources that match the demands of work makes nurses feel safe, reduce stress and add to their sense of being in control.</p> <p>92. A physical layout that allows for constant observation and immediate access to the patient coupled with high levels of rapidly developing technology, competent and experienced nurses, low nurse-to-patient ratios, longevity of contact between physicians and nurses, and high degree of medical specialisation are considered to be the elements of a healthy work environment in critical care units.</p>

### 6.2.2.5 Process description of the theory

In the paragraphs to follow I will describe the process of a grounded theory for positive practice environments in critical care units as it relates to the diagram presented in Figure 6.2.

A grounded theory for a positive practice environment is contextually situated in critical care units within the private hospital sector in Gauteng. The private hospital sector represents the macro context for this study and is considered a busy industry catering for the needs of approximately 20% of the South African population that can afford healthcare insurance. Being highly dependent on nursing staff to ensure the success of their operations, the current shortage of nurses presents a serious concern to the sector faced with increasing occupancy rates. The private hospital sector has an explicit doctor-centric approach, often leaving nurses feeling undervalued and unsupported.

The organisational level or meso context refers to the hospital-specific environment in Gauteng. With the highest number of beds and the highest admission rates found in this province, the work environment of nurses in this province is extremely taxing.

The micro context represents the individual level (the unit context) in which the critical care nurse practises. The unit context is an environment characterised by complex decision-making processes, constant monitoring and surveillance of patients, unique structures and designs, complex multi-system life support equipment and specialised comprehensive care. Because critical care units depend entirely on adequate and appropriate numbers in terms of infrastructure and human resources, nurses working in these units are faced with being overburdened and dissatisfied, often leading to poor patient care.

The organisation, critical care nurse and patient represent the three key players in the creation of a positive practice environment in critical care units. Because of the inextricable link that exists between them, a change in one of them (or one of the elements impacting on them) implies a change in the others. *Being in control* emerged as the core conceptual category in this study and represents the core explanatory concept to which all the other concepts relate. Packed into the core conceptual category are the products of the analysis

that represent the organisational elements contributing towards or hindering the creation of a positive practice environment in critical care units.

These elements include:

- *An environment built with nurses in mind.* This represents to a large extent the infrastructure and resources required to facilitate the nursing care process.
- *Sound management* at the unit level and the hospital level.
- *Solid knowledge base* pertaining to the knowledge, skill and competence of nurses and physicians working in the critical care environment.
- *Nursing human resources* that refer not only to nursing numbers but also to knowing and trusting your partner.
- *Being part of the critical care family* represents the collaboration and mutual trust relationship that exists between members of the multi-disciplinary team.
- The final element packed under the core conceptual category is found under the critical care nurses and refers to the *professional identity* of the nurse. *Professional identity* signifies the reason for working in the critical care environment.
- Although not described as an element in the creation of a positive practice environment, the patient represents the ultimate goal of the environment with optimal patient care contributing to *being in control* and adverse events contributing to a state of being out of control.

The core conceptual category is found on a continuum that ranges between *being in control* to being out of control. When all or most of the elements contributing to a positive practice environment are present and properly aligned, the nurse is aware, can anticipate and prevent possible adverse events, adding to her sense of *being in control*. If one or more of the elements are absent or present in too few quantities, the critical care nurse becomes unaware which makes her feel helpless, thereby increasing the stress of the environment. This contributes to feelings of being out of control and signifies a negative practice environment.

Because of the human factor associated with the all the elements that contribute to the creation of a positive practice environment, the practice environment of the critical care nurse will constantly fluctuate on the continuum of *being in control* to being out of control. The critical care nurse might therefore never experience a sense of total control or the perfect positive practice environment versus being totally out of control or having an entirely negative practice environment.

### **6.3 EVALUATION OF THE THEORY**

Rigour is founded on a profound reverence for human beings and their experiences (Munhall, 2007:501), and qualitative research relies on those who conduct it (Charmaz, 2006:15). Coming from an ontologically subjectivist perspective, I acknowledge the fact that neither the participant, nor the researcher can enter the research scene untouched by the world. In her work on the experiences of patients being cared for in an intensive care unit, Brook (2003:83) conceded the fact that when research is undertaken in familiar settings, the researcher can find it difficult to suspend his/her preconceptions and so poses a potential threat to the rigour of the study. Given the subjectivity associated with a constructivist grounded theory approach and the variations in method according to which grounded theory research (Glaser & Strauss, 1967; Strauss & Corbin, 1998; Charmaz, 2006) is often conducted, Chiovitti and Piran (2003:427) suggested eight methods for ensuring credibility, auditability and fittingness to enhance the rigour of a grounded theory study.

As stated earlier in this chapter, part of the evaluation process of the theory included a presentation of the theory to an international audience at a conference, for the purposes of peer-review. Following the identification and integration of the core category and related categories, I drafted a tentative visual presentation of the theory (Figure 6.1). This visual presentation and a preliminary description of the theory was presented at the 41st Biennial convention of Sigma Theta Tau International. The audience was invited to comment on both the semantic and structural clarity of the theory. Comments were received from four PhD-prepared nurses, and they agreed on the semantic clarity of the theory. In terms of the structural clarity, the following feedback was adapted into the theory:

- The circular structures found under the organisation did not convey their interrelatedness. The presentation seemed like a hierarchal sorting and indicated that a solid knowledge base, nursing human resources and critical care family were associated with being out of control. The sorting of the structures was reviewed and is presented in the final model (Figure 6.2).
- Professional identity as an element of a positive practice environment was not clear in the tentative visual presentation. As such, the name of the category was presented in the circular structure together with the attributes associated with the category.
- Representing the goal of a positive practice environment, I decided to move the circular structure of the patient to the centre of the model in order to better illustrate the connectedness of the elements and the goal.

Following the refinement of the description of the theory, the tentative model was replaced with the final model incorporating the feedback that was received. With that in mind, I now move on to discuss the methods that I applied to further enhance the credibility, auditability and fittingness of the findings in this research study.

### **6.3.1 Credibility**

Credibility refers to the faithfulness of the description of the phenomenon. It is demonstrated when the phenomenon is identified and described from the perspective of the participants (Chiovitti & Piran, 2003:430). In this study, credibility centred around the participants' descriptions of the elements of a positive practice environments in critical care units. The authors suggest four practices to enhance the credibility of the findings. These practices are discussed as they occurred in the research study:

#### **6.3.1.1 Method 1: Participants guided the inquiry process**

In the excerpt from one of the interviews conducted, I used the participants' language in the preliminary coding of the data. In describing the phenomenon of a positive practice environment in critical care units, the participant associated terms such as "structurally healthy", "clinically good practice", "well staffed", "good communication" and "excellent standards of care" as part of a positive practice environment.

## INTERVIEW TRANSCRIPT: PARTICIPANT #2

(tentative preliminary codes are presented in bold)

I think a positive practice environment is an environment that is healthy. **Structurally healthy, clinically good practice, well staffed, good communication and an excellent standard of care.**

As suggested by Chiovitti and Piran (2003:430), I used these words to guide the inquiry and subsequent exploration by including them in the interview guide. For example, the code 'structurally healthy' was included in one of the subsequent interviews as follows: "What do you mean when you say that a positive practice environment must be structurally healthy?". In staying close to the data and allowing the participants to guide the inquiry, I was able to enhance the credibility of my findings.

### **6.3.1.2 Method 2: Theoretical constructions revealed the participants' meaning of the phenomenon**

To further ensure the credibility of the findings, it is important that the researchers' theoretical constructions portray the participants' understanding of the phenomenon (Chiovitti & Piran, 2003: 431). To achieve this I had to verify the codes constructed with the participants for the accurate portrayal of their understanding. As part of the integration and refinement process, I conducted a consensus discussion regarding the conceptual ordering of the data with one of the participants from the study. A copy of the final description of the theory and the visual presentation of the theory (Figure 6.2) was given to one participant for revision. According to the participant, the visual presentation provided a coherent representation of the core category and related categories and the relationships between them. The participant also agreed that the categories represented the elements of a positive practice environment in critical care units, and that the indicators were anchored in the empirical world of the participants. The theory proved valid as it was recognisable to the participants in that the larger concepts were applicable and recognisable in their context (Strauss & Corbin, 1998:161).

### **6.3.1.3 Method 3: The use of *in vivo* codes**

The use of *in vivo* codes in grounded theory coding was discussed section 2.4.4.2 of Chapter 2. It was evident from that discussion that using the participants' own language not only anchored the data analysis in the participants' world (Charmaz, 2006:55), but also provided the best description of what is happening in the data (Wuest, 2007:254). Chiovitti and Piran (2003:431) concur with this notion, stating that the use of *in vivo* codes ground the theory and add to the credibility of the findings.

Charmaz (2006:55) cautions against the use of *in vivo* codes without clarifying the implicit meanings with participants. Chiovitti and Piran (2003:431) also emphasise the potential risks for inaccurately representing a participant's intended meaning of a concept. I addressed these concerns by verifying the meaning of words and phrases with participants. The concepts, or *in vivo* codes, were also always supported with excerpts from the interview transcripts. For example, the concept of "control" kept recurring during several of the interviews. Prior to the integration of the concept, I verified the implicit meaning thereof with the participants and concluded that the code accurately reflected the participants' intended meaning of the word.

### **6.3.1.4 Method 4: Articulation of the researchers' personal views of the phenomenon**

As stated in section 2.4.3.1 of Chapter 2, no researcher can enter a scene with a blank slate. In an attempt to counteract the influence of my knowledge and preconceptions about the phenomenon under investigation, I included any insights and analytical ideas that occurred during the collection and analysis of data, as part of my memos. Chiovitti and Piran (2003:432) describe the use of a post-comment interview sheet to note any aspects that provided excitement or surprise. For example, critical care nurses' passion seemed to be a determining factor in creating a positive practice environment, and from the initial interviews I speculated if passion was going to represent the core category of the theory. As a former critical care nurse I had to make sure that the priority I place on passion did not cloud the emergence of a true core category.

Chiovitti and Piran (2003:432) further mention the influence of prior theoretical constructions from the literature. As stated in section 4.4.1 of Chapter 4, I conducted a preliminary review of the literature in order to write a proposal for (i) review by the relevant ethical authorities, and (ii) to justify the need for the study. Although I had to provide an existing framework on which to base my theoretical assumptions, the Conceptual Model for Healthy Work Environments for Nurses (RNAO, 2006:14) was not used for deducing specific hypotheses before data-gathering (Charmaz, 2006:169). I only reviewed literature on previous constructions of a healthy work environment or positive practice environments upon conclusion of my categories, thus limiting possible influences from preconceived notions.

### **6.3.2 Auditability**

Chiovitti and Piran (2003:432) describe auditability as the “ability of another researcher to follow the methods and conclusions of the original researcher”, thus referring to the consistency of the study. According to Klopper and Knobloch (2009:10), consistency is the ability to reproduce the study with the same population, in a similar context and yield the same or comparable results. Chiovitti and Piran (2003:432) offer two methods to enhance the auditability of a research study. In addition to these methods, the use of the IDLE™-method (Klopper, 2010) over and above those stated by Chiovitti and Piran (2003) also contributed to the consistency of the study.

#### **6.3.2.1 Method 5: Specify the criteria built into the researcher’s thinking**

According to Chiovitti and Piran (2003:432), the researcher has to specify the criteria used when approaching the transcribed interview data during the analysis. As indicated in the discussion of coding in section 2.4.4.2 of Chapter 2, I constantly compared data during the analysis, submitting the data to a standard set of questions. The question asked included:

- What is happening in the data?
- What is this an indicator of?
- What differences or similarities exist between the codes?
- Which codes seem to relate to each other?
- Which codes can be fused into a broader code?

By stating the questions asked of the data, I was able to audit my approach during the process while at the same time leaving an audit trail for other researchers to follow (Chiovitti & Piran, 2003:432).

#### **6.3.2.2 Method 6: Specify how and why participants were selected**

The initial selection and inclusion of participants provide the researcher with a sense of direction and a place from which to start (Strauss & Corbin, 1998:204). As such, I first used purposive sampling to include participants considered to have expert knowledge in the phenomenon under investigation. From that point, further sampling was directed by the analysis of the data and the subsequent identification of concepts that required additional exploration. A total of six (n=6) critical care nurses participated in this segment of the study. A comprehensive discussion of the sampling in this study is provided in section 2.4.3.2 of Chapter 2 and sections 4.2.2 and 4.2.3 of Chapter 4.

#### **6.3.3 Fittingness**

Fittingness, also known as transferability, refers to the generalisability of the data in a similar context (Klopper & Knobloch, 2009:8; Chiovitti & Piran, 2003:433). In other words, fittingness involves the extent to which the findings of a particular inquiry can be transferred to a context other than the one from which they were generated (Chiovitti & Piran, 2003:433; Klopper & Knobloch, 2009:8; Lincoln and Guba, 1985:297). In the following paragraphs I present the final methods for ensuring the rigour of the research findings.

##### **6.3.3.1 Method 7: Delineate the parameters of the research in terms of sample, setting and level of theory generated**

In describing the demographic characteristics of the critical care units (section 3.2.2.2.5, Chapter 3) as well as the critical care nurses (section 4.2.4, Chapter 4), I provided essential information on the context from which the theory was constructed, supporting the assessment of the fittingness and transferability of the findings.

In describing the level of theory that was generated as substantive (section 2.4.1.1, Chapter 2), my portrayal of the context alluded to the fact that a substantive theory evolves “from the study of [a] phenomenon situated in a particular situational context” (Strauss & Corbin,

1990). To that end, the particular situational context for this study was 31 critical care units located in the hospitals of two private hospitals groups. All of the hospitals were based in the Gauteng province in South Africa. Critical care nurses working in these units as trained critical care nurses, or nurses with experience in critical care, were targeted to explore the elements of a positive practice environment in these particular units. Reporting on the level of theory generated provided information on the scope of the theory and contributed to the assessment of the fittingness of the theory (Chiovitti & Piran, 2003:433).

#### **6.3.3.2 Method 8: Describe the literature pertaining to each category which emerged in the theory**

To demonstrate the transferability or the fittingness of the research findings as described in section 6.3.3, Chiovitti and Piran (2003:433) advise researchers to incorporate literature relevant to each of the categories contained in the theory. During this research I consulted the literature following the construction of the categories to highlight any similarities or differences between the findings of this study and others. It is important to note that an incorporation of literature to complement the findings of the study does not guarantee the transferability of the findings. Chiovitti and Piran (2003:433) conclude that the final judgement regarding transferability always rests with the reader.

## **6.4 DEDUCTIVE AND INDUCTIVE REASONING**

Grounded theory represents a process of inductively deriving codes, developing ideas about the properties of these codes and their relationships, and then examining old and new data deductively through theoretical sampling to develop yet another inductive theoretical idea (Wuest, 2007:253).

As such, the process of deduction represents in part the researchers' interpretation of the data in order to identify relationships between concepts (Strauss & Corbin, 1998:136-137). Being unfamiliar with the meaning of the phenomenon of a positive practice environment, I explored and described the elements of the phenomenon from the perspective of the participants. Using the IDLE™-method (Klopper, 2010) and through my interpretation of the data I was able to recognise concepts and relationships between them in order to

construct a theory for positive practice environments in critical care units in the private hospital sector in Gauteng.

## **6.5 SUMMARY**

This chapter presented, at a theoretical level, a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng. It effectively assembled the groundwork laid down in Chapters 3, 4 and 5 by synthesising the formulated conclusions into relational statements to describe the theory. A visual presentation of the theory was provided, followed by a discussion of the theory in terms of its assumptions, purpose, context and structure. The chapter concluded with an evaluation of the theory. In the following chapter the grounded theory for positive practice environments in critical care units will be evaluated by the researcher, followed by a discussion of the limitations and recommendations for nursing science, nursing practice and nursing research.



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## **CHAPTER 7**

TOWARDS THE FUTURE: EVALUATION,  
LIMITATIONS AND RECOMMENDATIONS

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## 7.1 INTRODUCTION

In this, the final chapter of the thesis, I present a retrospective evaluation of the research design and method by reflecting on the central theoretical argument described in Chapter 1 (section 1.4) of this study. I also discuss the limitations encountered during the study and offer some recommendations for nursing science, nursing practice and research in nursing.

## 7.2 EVALUATION OF THE STUDY

The overall aim of the study, which was to construct a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng, was achieved by using both inductive and deductive research strategies to realise the following objectives:

In objectives 1 and 2, I explored and described the demographic profile of the critical care units as well as the perceptions of critical care nurses regarding their current practice environment. The findings from this first phase of the study were used to inform the context in which the phenomenon occurs and provided insight into concepts considered relevant to the phenomenon under investigation. In the second phase of the study I explored and described the perceptions of critical care nurses regarding the elements of a positive practice environment by means of intensive interviews (objective 3). Using the empirical findings presented in objectives 1 to 3, a grounded theory for positive practice environments in critical care units was successfully constructed.

In remaining true to the emergent nature of a grounded theory, no preconceived theoretical framework was used in describing the phenomenon under investigation. A central theoretical argument was presented at the outset of the research study and will now be used as a guideline to evaluate the research study. As stated in Chapter 1, section 1.4:

*I will explore a relatively unfamiliar phenomenon with no existing models and theories within a South African context. Pragmatic plurality within constructivism allowed me to collect data, both qualitatively and quantitatively, in order to construct a theory for positive practice environments in CCUs in the private hospital sector in Gauteng. The theory is grounded in the exploration and description of the current practice environment of the*

*critical care nurse, as well as the perceptions of the critical care nurse regarding the elements of a positive practice environment.*

Following a constructivist grounded theory design and using both quantitative and qualitative data collection methods, a core conceptual category and related categories were identified by means of an inductive analysis of the data. The core conceptual category, *being in control*, and six related categories (representing the elements of a positive practice environment in critical care units) emerged from the data: *professional identity, an environment built with nurses in mind, sound management, solid knowledge base, nursing human resources* and *being a part of the critical care family*. Conclusion statements for the context, categories and secondary literature review were formulated and used for statement synthesis. A total of 92 conclusion statements were used to describe the relational statements for the theory. From a synthesis of the findings, a grounded theory for positive practice environments in critical care units in the private hospital sector in Gauteng was constructed as a middle range theory in nursing. The theory was evaluated using the methods described by Chiovitti and Piran (2003) and presented for peer-review to an international audience. Comments and suggestions from the review and subsequent consensus discussion were included in the refinement of the theory.

The unique contribution of this study to knowledge is an explication of what the elements of a positive practice environment in critical care units might entail, from the perspective of critical care nurses working in the private hospital sector in South Africa. This thesis provides the private hospital sector with an understanding of the critical care nurses' definition for a positive practice environment by making the elements of such an environment explicit.

### **7.3 LIMITATIONS OF THE STUDY**

The following limitations were identified:

- The study was only conducted in the private hospital sector in South Africa, limiting the findings to the private healthcare context.
- Although the response rate of nurses completing the demographic checklist and Practice Environment Scale of the Nursing Work Index (PES-NWI) did not have an

influence on the reliability of the findings in the study, they do reflect a poor response. The ignorance of nurses to participate in nursing research can therefore seriously affect future research projects.

## **7.4 RECOMMENDATIONS**

The following recommendations originated from the research study and will be discussed as they relate to nursing science, nursing practice and research in nursing:

### **7.4.1 Recommendations for nursing science**

- Introduce nurses to the value of a positive practice environment by including a definition and discussion of the elements of such an environment in the training of critical care nurses.
- Focus on each of the elements as an individual theme by explaining the impact of each element in the creation of a positive practice environment in critical care units.
- Include reports of the global investigation and existing programmes for healthy work environments in the curricula.
- Introduce and encourage policy-writing courses for nurses that focus on the impact of a positive practice environment on organisational outcomes, staff outcomes and patient outcomes.
- Develop an instrument based on the conclusions deduced from the empirical evidence that is unique to the South African context.

### **7.4.2 Recommendations for nursing practice**

- In light of the poor response rates received in the completion of the questionnaires, education and training regarding the importance of research in nursing practice might prove beneficial to future projects.
- Present the findings of the study to the management of the private hospital sector in South Africa in order to implement the elements in the practice environment of the critical care nurse.

- Create an awareness programme for the management of hospitals that will inform them about the benefits of a positive practice environment.
- Develop a rating system for the practice environment of the critical care nurse in the private hospital sector.
- Establish networks in the private hospital sector with the aim of developing a programme for the implementation of the elements identified in this research study.
- Identify a champion for positive practice environments in each hospital, and provide training and support to the champion regarding the elements and implementation of a programme for positive practice environments.
- Establish networks between international partners and the healthcare sector in South Africa in order to encourage collaboration on projects related to the practice environment of the critical care nurse.
- Suggest the use of established programmes such as the “Magnet” recognition programme (AACN, 2005) and the Best Practice Guidelines for Healthy Work Environments (RNAO, 2006a) to create positive practice environments.

#### **7.4.3 Recommendations for research in nursing**

- The operationalisation of a grounded theory for positive practice environments in critical care units.
- An investigation into the perceptions of critical care nurses working in the public healthcare sector regarding the elements of a positive practice environment in critical care units.
- A comparison study between the perceptions of critical care nurses regarding their current practice environment in the private and public healthcare sectors in South Africa.
- An investigation into the practice environment of nurses working outside of the critical care environment.
- Policy research about the implementation of positive practice environments in one or both of the healthcare sectors in South Africa.
- An investigation into the impact that a positive practice environment has on organisational outcomes.

- An investigation into the impact that a positive practice environment has on staff outcomes.
- An investigation into the impact of a positive practice environment on patient outcomes.

## **7.5 PERSONAL REFLECTION**

Embarking on the journey of a constructivist grounded theory truly expanded my vistas and provided an adventure with numerous obstacles and opportunities along the way. In retrospect the past six months have been the most challenging months of my life. Constructing a theory that is grounded in the data requires an enormous amount of creative energy on the part of the researcher – something I thought I never had. When reflecting on the end-point of my journey I finally understand what Charmaz (2006:xi) meant when she said that “the journey emerge from where you start”. Looking back at the finished work I feel extremely proud to be a co-creator of new knowledge in the field of critical care nursing in South Africa. Having worked in the critical care environment myself, I am of opinion that the elements of this theory truly reflect what a critical care nurse perceives as a positive practice environment.

As a co-creator of this theory my responsibility however does not end here. I truly believe that the implementation of these elements can make a difference to the critical care nurses’ practice environment, and as such I owe it to these nurses to make sure that management are informed of these findings.

## **7.6 SUMMARY**

In concluding this thesis I provide the reader with an evaluation of the study followed by a discussion of the limitations and recommendations for nursing science, nursing practice and nursing research. In drawing this study to a close, a critical reflection on the journey not only revealed several avenues for further inquiry but also provided a better understanding of the elements of a positive practice environment in critical care units as described by the experts: the nurses working in these environments.

## BIBLIOGRAPHY

- AIKEN, L.H., SLOANE, D.M., & SOCHALSKI, J. 1998. Hospital organisation and outcomes. *Quality in Healthcare*, 7(4):222-226.
- AIKEN, L.H., HAVENS, D.S., & SLOANE, D.M. 2000. The Magnet Nursing Service Recognition Program. A comparison of Two Groups of Magnet Hospitals. *American Journal of Nursing*, 100(3):26-36.
- AIKEN, L.H., & PATRICIAN, P.A. 2000. Measuring organisational traits of hospitals: The revised nursing work index. *Nursing Research*, 49:146-153.
- AIKEN, L.H., CLARKE, S.P., SLOANE, D.M., SOCHALSKI, J. & SILBER, J.H. 2002. Hospital nurse staffing and patient mortality, nurse burnout and job dissatisfaction. *Journal of the American Medical Association*, 288:1987-1993.
- ALEXANDER, J.A. 1982. Nursing unit organisation: Its effects on staff professionalism. Ann Arbor: UMI Research Press.
- AMERICAN ASSOCIATION OF CRITICAL CARE NURSES. 2005. Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence. *American Journal of Critical Care*, 14(3):187-197.
- AMERICAN NURSES CREDENTIALING CENTER. 2007. ANCC Magnet Recognition Program ®. United States of America. [Web:] <http://www.nursecredentialing.org/Magnet.aspx>. [Date of access: 13 February 2007].
- ANNALS, G. 2007. Creating positive practice environments. *Kai Tiaki Nursing New Zealand*, 13(3).

ANNELLS, M. 1996. Grounded theory method: philosophical perspectives, paradigm of inquiry and postmodernism. *Qualitative Health Research*, 6:379-393.

BACKMAN, K. & KYNGÄS, H.A. 1999. Challenges of the grounded theory approach to a novice researcher. *Nursing and Health Sciences*, 1: 147-153.

BAUMAN, A. 2007. Positive Practice Environments: Quality Workplace = Quality Patient Care. Information and Action Tool Kit. Geneva: International Council of Nurses.

BESTER, P. & KLOPPER, H.C. 2008. Authentic Leadership embedded in a social capital framework: A theory in Nursing Science. Potchefstroom: North-West University (Unpublished doctoral thesis).

BHAGWANJEE, S. & SCRIBANTE, J. 2007. National audit of critical care resources in South Africa – unit and bed distribution. *South African Medical Journal*, 97(12): 1311- 1314.

BOTES, A. 1995. A Model for Research in Nursing. Johannesburg: Rand Afrikaans University.

BRINK, H., VAN DER WALT, C., & VAN RENSBURG, G. 2006. Fundamentals of Research Methodology for Health Care Professionals. 2<sup>nd</sup> ed. Cape Town: Juta & Co.

BROOK, C. 2003. At ease: The experience of being cared for in intensive care from patient's perspective. Australia: University of South Australia (Unpublished doctoral thesis).

BRUYNEEL, L., VAN DEN HEEDE, K., DIYA, L., AIKEN, L.H. & SERMEUS, W. 2009. Predictive Validity of the International Hospital Outcomes Study Questionnaire: An RN4CAST Pilot Study. *Journal of Nursing Scholarship*, 41(2): 202-210.

BUCHAN, J. & CALMAN, L. 2004. The Global Shortage of Registered Nurses: An overview of Issues and Actions. International Council of Nurses. Geneva. [Web:] <http://www.icn.ch/global/summary.pdf>. [Date of access: 14 February 2007].

BURNS, N. & GROVE, S.K. 2001. The practice of nursing research: conduct, critique and utilization. 4<sup>th</sup> ed. Philadelphia: W.B Saunders.

BURNS, N. & GROVE, S.K. 2005. The practice of nursing research: conduct, critique and utilization. 5<sup>th</sup> ed. Philadelphia: Elsevier Saunders.

BURNS, N. & GROVE, S.K. 2007. Understanding Nursing Research. Building Evidence-Based Practice. 4<sup>th</sup> ed. Missouri: Elsevier.

CANADIAN CENTRE FOR OCCUPATIONAL HEALTH AND SAFETY. 1999. Violence in the workplace. [Web:] <http://www.ccohs.ca/oshanswers/psychosocial/violence.html>. [Date of access: 10 October 2009].

CHSRF see CANADIAN HEALTH SERVICES RESEARCH FOUNDATION.

CANADIAN HEALTH SERVICES RESEARCH FOUNDATION. 2001. Commitment and Care: The benefits of a healthy workplace for nurses, their patients and the system. [Web:] <http://www.chsrf.ca>. [Date of access: 10 October 2009].

CHAN, A.O.M, & HUAK, C.Y. 2004. Influence of work environment on emotional health in a health care setting. *Occupational Medicine*. 54:207-212.

CHABOYER, W.P. & PATTERSON, E. 2001. Australian hospital generalist and critical care nurses' perceptions of doctor-nurse collaboration. *Nursing and Health Sciences*. 3(2):73-79.

CHARMAZ, K. 2006. *Constructing Grounded Theory. A Practical Guide Through Qualitative Analysis*. London: Sage Publications.

CHIANG, H. & LIN, S. 2008. Psychometric testing of the Chinese version of nursing practice environment scale. *Journal of Clinical Nursing*, 18:919-929.

CHINN P.L., & KRAMER, M.K. 2008. *Intergrated theory and knowledge development in nursing*. 7<sup>th</sup> ed. United States of America; Mosby Elsevier.

CHIOVITTI, R.F. & PIRAN, N. 2003. Rigour and grounded theory research. *Journal of Advanced Nursing*, 44(4):427-435.

CHOI, J., BAKKEN, S., LARSON, E., DU, Y., & STONE, P.W. 2004. Perceived Nursing Work Environment of Critical Care Nurses. *Nursing Research*, 53(6):370-378.

CIMIOTTI, J.P., QUINLAN, P.M., LARSON, E.L., PASTOR, D.K., LIN, S.X., & STONE.P.W. 2005. The Magnet Process and the Perceived Environment of Nurses. *Nursing Research*, 54(6):384-390.

CLARK, L.A., & WATSON, D. 1995. Constructing validity: basic issues in objective scale development. *Psychological Assessment*, 7(3):309-319.

CLARKE, A.E. 2003. Situational Analyses: Grounded Theory Mapping After the Postmodern Turn. *Symbolic Interaction*, 26(4):553-576.

COYNE, I.T. 1997. Sampling in qualitative research: purposeful and theoretical sampling: merging or clear boundaries? *Journal of Advanced Nursing*, 26(3):623-630.

CRESWELL, J. ([creswell@unlserve.unl.edu](mailto:creswell@unlserve.unl.edu)) 2008. Discussion of mixed methods. [E-mail to:] Pretorius, R. ([Ronel.Pretorius@nwu.ac.za](mailto:Ronel.Pretorius@nwu.ac.za)) Nov 4.

DENZIN, N.K., & LINCOLN, Y.S. 2005. *The Sage Handbook of Qualitative Research*. 3<sup>rd</sup> ed. London: SAGE Publications.

DEPARTMENT OF HEALTH see SOUTH AFRICA.

DEPARTMENT OF PUBLIC SERVICE AND ADMINISTRATION see SOUTH AFRICA.

DE VOS, A.S., STRYDOM, H., FOUCHE, C.B., & DELPORT, C.S.L. 2005. *Research at Grass roots. For the social sciences and human service professions*. 3<sup>rd</sup> ed. Pretoria: Van Schaik Publishers.

DEY, I. 1999. *Grounding grounded theory*. San Diego: Academic Press.

DICKOFF, J., JAMES, P., & WIEDENBACH, E. 1968. Theory in a practice discipline. Part I. Practice oriented theory, *Nursing Research*. 17(5):414-435.

DICKENS, G, SUGARMAN, P & ROGERS, G. 2005. Nurses' perceptions of the working environment: a UK independent sector study, *Journal of Psychiatric and Mental Health Nursing*. 12:297-302.

DONABEDIAN, A. 1980. The Definition of Quality and Approaches to Its Assessment. *Explorations in Quality Assessment and Monitoring: vol 1*, Ann Arbor: Health Administration Press.

FAGERMOEN, M.S. 1997. Professional identity: values embedded in meaningful nursing practice. *Journal of Advanced Nursing*, 25:434-441.

FIELD, A. 2005. *Discovering Statistics Using SPSS*. London: SAGE Publications.

FLOOD, A.B. 1994. The impact of organisational and managerial factors on the quality of care in health care organisations. *Medical Care Research Review*, 51:381-428.

FLOOD, A.B., & SCOTT, W.R. 1987. Hospital structure and performance. Baltimore: Johns Hopkins University Press.

FRIESE, C.R. 2005. Nurse Practice Environments and Outcomes: Implications for Oncology Nursing. *Oncology Nursing Forum*, 32(4):765-772.

FRUSTI, D.K., NIESEN, K.M. & CAMPION, J.K. 2003. Creating a Culturally Competent Organization: Use of the Diversity Competency Model. *Journal of Nursing Administration*. 33(1): 31-38.

GEORGE, B. 2003. Authentic Leadership: Rediscovering the Secrets to Creating Lasting Value. San Francisco: Jossey-Bass.

GILLESPIE, R., KYRIACOS, U. & MAYERS, P. 2006. The critical care nursing workforce in Western Cape Hospitals – a descriptive study. *South African Journal of Critical Care*. 22(2):50-56.

GLASER, B.G. 1978. Theoretical sensitivity. California: The Sociology Press.

GLASER, B.G. 1992. Basics of grounded theory analysis. California: The Sociology Press.

GLASER, B.G & STRAUSS, A.L. 1967. The discovery of grounded theory. Chicago: Aldine.

HASA see HOSPITAL ASSOCIATION OF SOUTH AFRICA.

HEALTH SYSTEMS TRUST. 2008. Percentage of professional nurse posts vacant. [Web:] <http://www.hst.org.za/healthstats/256/data>. [Date of access: 11 September 2009].

HEATH, J, JOHANSON, W & BLAKE, N. 2004. Healthy Work Environments: A Validation of the Literature. *Journal of Nursing Administration*, 34(11):524-530.

HENNEMAN, E.A., LEE, J.L. & COHEN, J.I. 1995. Collaboration: a concept analysis. *Journal of Advanced Nursing*, 21(1): 103-109.

HOLLOWAY, I. 2005. Qualitative writing. (In Holloway, I., ed. *Qualitative Research in healthcare*. London: Open University Press.

HOSPITAL ASSOCIATION OF SOUTH AFRICA. 2007a. Introduction to HASA. [Web:] [http://www.hasa.co.za/about\\_what\\_is\\_hasa.asp](http://www.hasa.co.za/about_what_is_hasa.asp) [Date of access: 17 February 2007].

HOSPITAL ASSOCIATION OF SOUTH AFRICA. 2007b. *Health Annals 2007*. Northcliff, Johannesburg.

HOSPITAL ASSOCIATION OF SOUTH AFRICA. 2008. Private Hospital Review 2008: examination of the factors impacting private hospitals. [Web:] <http://www.mediclinic.co.za/Newsroom/Releases?HTG%20Repcit%20%2001%20January%202008.pdf>. [Date of access: 7 August 2009].

HOSPITAL ASSOCIATION OF SOUTH AFRICA. 2009. Private Hospital Review 2009. [Web:] [http://www.hasa.co.za/media/uploads/news/file/2009-06-09/Private\\_Hospital\\_Review\\_2009.pdf](http://www.hasa.co.za/media/uploads/news/file/2009-06-09/Private_Hospital_Review_2009.pdf). [Date of access: 7 August 2009].

HSRC see HUMAN SCIENCE RESEARCH COUNCIL.

HUGGINS, K. 2004. Lifelong learning – the key to competence in the intensive care unit?. *Intensive and Critical Care Nursing*, 20:38-44.

HUMAN SCIENCE RESEARCH COUNCIL REPORT. 1991. The working conditions of professional nurses in intensive care and high care areas in RSA. *South African Journal of Critical Care*, 7:4-6.

IAPICHINO, G., RADRIZZANI, D., PEZZI, A., ASSI, E., DI MAURO, P., MISTRALETTI, G., & PORTA, F. 2005. Evaluating daily nursing use and needs in the intensive care unit: a method to assess the rate and appropriateness of ICU resource use. *Health Policy*, 73:228-234.

ICN see INTERNATIONAL COUNCIL OF NURSES.

IMCSA see INTERNATIONAL MARKET COUNCIL OF SOUTH AFRICA.

INTERNATIONAL COUNCIL OF NURSES. 1987. The ICN definition of Nursing. ICN: Geneva. [Web:] <http://www.icn.ch/definition.htm>. [Date of access: 3 February 2007].

INTERNATIONAL COUNCIL OF NURSES. 2007a. Fact Sheet - Positive Practice Environments. ICN: Geneva. [Web:] [http://www.icn.ch/matters\\_ppe.htm](http://www.icn.ch/matters_ppe.htm). [Date of access: 17 May 2007].

INTERNATIONAL COUNCIL OF NURSES. 2007b. The Global Shortage of Registered Nurses: An overview of the issues and actions. ICN: Geneva. [Web:] <http://www.icn.ch/global/shortage.pdf>. [Date of access: 12 October 2009].

INTERNATIONAL MARKET COUNCIL OF SOUTH AFRICA . 2008 . About South Africa. 2008. [Web:] <http://www.southafrica.info/about/health/health.htm>. [Date of access: 6 November 2008].

KEMERLING, G. 2001. Arguments and Inferences. [Web:] <http://www.philosophypages.com>. [Date of access: 30 November 2009].

KHUMALO, G. 2008. Healthcare usage doubles since 2000. [Web:] <http://www.southafrica.info/about/health/health-150408.htm>. [Date of access: 5 August 2009].

KLOPPER, H.C. 2010. The application of the IDLE™-method in research. Potchefstroom: North-West University (submitted for publication).

KLOPPER, H.C. & KNOBLOCH, S. 2009. Validity, reliability and trustworthiness. Potchefstroom: North-West University. ( Unpublished chapter).

KRAMER, M., & HAFNER, L.P. 1989. Shared values: impact on staff nurse job satisfaction and perceived productivity. *Nursing Research*, 38(8):172-177.

KRAMER, M., & SCHMALENBERG, C. 1991. Job satisfaction and retention: Insights for the 90's. *Nursing*, 21(3):50-55.

KRAMER, M & SCHMALENBERG, C. 2008. Confirmation of a Healthy Work Environment. *Critical Care Nurse*, 28(2):56-63.

KRISTENSEN, T.S. 1999. Challenges for research and prevention in relation to work and cardiovascular diseases. *Scandinavian Journal of Work, Environment and Health*, 25(6):550-557.

KROGSTAD, U., HOFLOSS, D., VEENSTRA, M. & HJORTDAHL, P. 2006. Predictors of job satisfaction among doctors, nurses and auxiliaries in Norwegian hospitals: relevance for micro unit culture. *Human Resources for Health*, 4(3).

KVALE, S. 1996. Interviews. An introduction to qualitative research interviewing. California: Sage.

KVALE, S. 2006. Dominance through Interviews and Dialogues. *Qualitative Inquiry*, 12(3): 480-500.

KVALE, S. & BRINKMANN, S. 2009. Interviews. Learning the craft of qualitative research interviewing. 2<sup>nd</sup> ed. Los angeles: Sage.

LAKE, E.T. 2002. Development of the Practice Environment Scale of the Nursing Work Index. *Research in Nursing & Health*, 25(3): 176-188.

LAKE, E.T & FRIESE, C.R. 2006. Variations in Nursing Practice Environments. *Nursing Research*, 55(1):1-9.

LAURITSEN, J.M. 2008. EpiData Data Entry. Data Management and Basic Statistical Analysis System. Odense Denmark, EpiData Association.

LI, Y., LAKE, E.T., SALES, A.E., SHARP, N.D., GREINER, G.T., LOWY, E., LIU, C., MITCHELL, P.H & SOCHALSKI, J.A. 2007. Measuring Nurses' Practice Environment With the Revised Nursing Work Index: Evidence From Registered Nurses in the Veterans Health Administration. *Research in Nursing & Health*. 30:31-44.

LINCOLN, Y.S. & GUBA, E.A. 1985. Naturalistic Inquiry. California: Sage.

LITWIN, G.H., & STRINGER, R.A. 1974. Motivation and Organisational Climate. 3<sup>rd</sup> ed. Boston: Harvard University Press.

- LOMBORG, K., & KIRKEVOLD, M. 2003. Truth and validity in grounded theory – a reconsidered realist interpretation of the criteria: *fit, work, relevance and modifiability*. *Nursing Philosophy*, 4:189-200.
- MANOJLOVICH, M., ANTONAKOS, C.L, & RONIS, D.L. 2009. Intensive Care Units, Communication between Nurses and Physicians, and Patients' Outcomes. *American Journal of Critical Care*, 18(1):21-30.
- MARSHALL, C. & ROSSMAN, G.B. 1995. Designing qualitative research. 2<sup>nd</sup> ed. Thousand Oaks: Sage.
- MASLACH, C. & JACKSON, S.E. 1985. Maslach Burnout Inventory HSS. California: CPP Inc.
- MATSEBULA, T. & WILLIE, M. 2007. Private Hospitals. *South African Health Review*, 159-174.
- MCCALLIN, A.M. 2003. Designing a grounded theory study: some practicalities. *Nursing in Critical Care*, 8(5):203-208.
- MCCANN, T.V., & CLARKE, E. 2003. Grounded theory in nursing research – Part 3 – application. *Nurse Researcher*, 11(2):29-39.
- MCGHEE, G., MARLAND, G.R., & ATKINSON, J. 2007. Grounded theory research: literature reviewing and reflexivity. *Journal of Advanced Nursing*, 60(3):334-342.
- MIDDLETON, S., GRIFFITHS, R., FERNANDEZ, R. & SMITH, B. 2008. Nursing Practice Environment: How does one Australian hospital compare with magnet hospitals?. *International Journal of Nursing Practic*,. 14: 366-372.

MILLS, J., BONNER, A., & FRANCIS, K. 2006. The development of Constructivist Grounded Theory. *International Journal of Qualitative Methods*, 5(1):1-10.

MindJet®MindManager®Pro7. 2009. San Francisco, CA. [Web:] <http://www.mindjet.com>

MOGHADDAN, A. 2006. Coding issues in grounded theory. *Issues in Educational Research*, 16(1):52-66. [Web:] <http://www.iier.org.au/iier16/moghaddam.html>. [Date of access: 15 August 2007].

MOUTON, J. & MARAIS, H.C. 1994. Basic concepts in the methodology of social sciences. Pretoria: Human Science Research Council.

MRAYYAN, M.T. 2008. Hospital Organisational climates and nurses' intent to stay: Differences between units and wards. *Contemporary Nurse*, 27:223-236.

MUNHALL, P.L. 2007. Nursing Research. A Qualitative Perspective. Fourth Edition. London: Jones and Bartlett Publishers.

MUNRO, B.H. 2005. Statistical Methods for Health Care Research. 5<sup>th</sup> ed. London: Lippincott, Williams & Wilkins.

NATIONAL QUALITY FORUM. 2004. National Voluntary Consensus Standards for Nursing-Sensitive Care: An Initial Performance Measure Set. Washington.

NELSON, L., & BURNS, F.L. 1984. High Performance Programming: A Framework for Transforming Organisations. Alexandria: Van Mises River Press.

NUNALLY, J.C. & BERNSTEIN, R.L. 1994. Psychometric Theory. 3<sup>rd</sup> ed. New York: McGraw-Hill.

PARSON, M.L., CORNETT, P.A., & BURNS, A.L. 2005. A Healthy Emergency Department Workplace. *Topics in Emergency Medicine*, 27(3):198-205.

PILCHER, T. & ODELL, M. 2000. Position statement on nurse-patient ratios in critical care. *Nursing Standard*, 15(12): 38-41.

PRETORIUS, R. & MACERA, L. 2009. Cardiovascular Nursing in South Africa. *Progress in Cardiovascular Nursing*, 18-22.

POLIT, D.F & BECK, C.T. 2004. Nursing research: Principles and methods 7<sup>th</sup> ed. Philadelphia: Lippincott Williams and Wilkins.

POLIT, D.F., & HUNGLER, B.P. 1997. Essentials of Nursing Research: methods, appraisal and utilisation. 4<sup>th</sup> ed. Philadelphia: Lippincott.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006a. Healthy Work Environments Best Practice Guidelines. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006b. Collaborative Practice among Nursing Teams. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006c. Developing and Sustaining Effective Staffing and Workload Practices. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006d. Developing and Sustaining Nursing Leadership. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006e. Embracing Cultural Diversity in Health Care: Developing Cultural Competence. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006f. Professionalism in Nursing. Toronto.

REGISTERED NURSES ASSOCIATION OF ONTARIO. 2006g. Workplace Health, Safety and Well-being of the Nurse. Toronto.

RICHARDS, G, ARGENT, A, MICHELL, W.L., MATHIVA, R, PRETORIUS, J, RAINE, R & SPRUYT, M. n.a. Modernisation of tertiary services – second round. Critical Care Supplementary Report. [Web:] <http://www.doh.gov.za/mts/reports/criticalcare-sup.html>. [Date of access: 26 March 2007].

RISCHBIETH, A. 2006. Matching nurse skill with patient acuity in the intensive care units: a risk management mandate. *Journal of Nursing Management*, 14:397-404.

RNAO see REGISTERED NURSES ASSOCIATION OF ONTARIO.

ROBINSON, C.A. 2001. Magnet Nursing Service Recognition: Transforming the Critical Care Environment. *AACN Clinical Issues*, 12(3):411-423.

SANC see SOUTH AFRICAN NURSING COUNCIL.

SCHMALENBERG, C. & KRAMER, M. 2008a. Clinical Units with the Healthiest Work Environments. *Critical Care Nurse*, 28(3):65-77.

SCHMALENBERG, C. & KRAMER, M. 2008b. Types of Intensive Care Units with the Healthiest, Most Productive Work Environments. *American Journal of Critical Care*, 16(5):458-468.

SCHUBERT, M., GLASS, T.R., CLARKE, S.P., AIKEN, L.H., SCHAFFERT-WITVLIET, B., SLOANE, D.M., & DE GEEST, S. 2008. Rationing of nursing care and its relationship to patient outcomes:

the Swiss extension of the International Hospital Outcome Study. *International Journal for Quality in Health Care*, 1-11.

SCHULLANBERGER, G. 2000. Nurse Staffing decisions: An integrative review of the literature. *Nursing Economic\$,* 18(3):124-132.

SCOTT, J.G, SOCHALSKI, J, & AIKEN, L. 1999. Review of Magnet Hospital Research. *Journal of Nursing Administration*, 29(1):9-19.

SCRIBANTE,J. & BHAGWANJEE, S. 2007a. National audit of critical care resources in South Africa– research methodology. *South African Medical Journal*. 97(12) :1308 - 1310.

SCRIBANTE,J. & BHAGWANJEE, S. 2007b. National audit of critical care resources in South Africa– nursing profile. *South African Medical Journal*. 97(12) :1315 – 1318.

SCRIBANTE,J. & BHAGWANJEE, S. 2007c. National audit of critical care resources in South Africa – open versus closed intensive and high care units. *South African Medical Journal*. 97(12) :1319 - 1322.

SCRIBANTE, J., SCHMOLLGRUBER, S. & NEL, E. 2006. Perspectives on critical care nursing: South Africa. *The World of Critical Care Nursing*, 3(4):111-115.

SERMEUS, W., AIKEN, L.A., DE GEEST, S., DIOMIDOUS, D., DURNA, E., EKMAN, M., KLOPPER, H.C., LIU, C., MATTHEWS, MORENA-CASBAS, M., RAFFERTY, A.M., SCOTT, SCHOONHOVEN, SCHUBERT, M., SHAIBU, S., TISHELMAN, ANTYPAS, BRZOSTEK, BOMMELS, BUSSE, CLARKE, S., DELAURE, FRIGAS, GRIFFITS, GUSTAVSSON, KINNUNE, LIASKOS, LESAFFRE, MANTAS, VAN ACHTERBERG, VAN DEN HEEDE, C., WÖRZ, & ZIKOS. 2008. International collaboration study and multinational comparison funded through FP 7 of the European Union.

SHIREY, M.R. 2006. Authentic leaders creating healthy work environments for nursing practice. *American Journal of Critical Care*. 15(3): 256-267.

SHIREY, M.R., & FISHER, M.L. 2008. Leadership Agenda for Change. Towards Healthy Work Environments in Acute and Critical Care. *Critical Care Nurse*, 28(5):66-79.

SIEGRIST, J. 1996. Adverse health effects of high-effort/low-reward conditions. *Journal of Occupational Health Psychology*, 1(1): 27-41.

SOLIDARITY RESEARCH INSTITUTE. 2009. Nurse shortage in South Africa. Nurse/Patient ratios. [web:] <http://www.solidarity.co.za>. [Date of access: 7 August 2009].

SOUTH AFRICA. Department of Health. 2006. South African Demographics and Health Survey of 2003. [Web:] [http://www.naledi.org.za/pubs/2006/DPSA\\_research\\_report\\_2006.pdf](http://www.naledi.org.za/pubs/2006/DPSA_research_report_2006.pdf). [Date of access: 11 August 2009].

SOUTH AFRICA. Department of Public Service and Administratio (DPSA). 2006. An investigation into the management of public hospitals in South Africa: stressed institutions, disempowered management. [Web:] [http://www.naledi.org.za/pubs/2006/DPSA\\_research\\_report\\_2006.pdf](http://www.naledi.org.za/pubs/2006/DPSA_research_report_2006.pdf). [Date of access: 10 August 2009].

SOUTH AFRICA. Department of Health. 2008. Health Minister assembles a new team to rebuild the image of the South African Nursing Council. [Web:] <http://www.doh.gov.za/docs/pr/2008/pr0710.html>. [Date of access: 11 August 2009].

SOUTH AFRICAN NURSING COUNCIL. 1993. Scope of Practice, Regulation 2598 of 1984. Pretoria: Government Printer.

SOUTH AFRICAN NURSING COUNCIL. 1993. Registration of an additional qualification in Clinical Nursing, Regulation 212 of 1993. Pretoria: Government Printer.

SOUTH AFRICAN NURSING COUNCIL. 1997. Registration of an additional qualification in Clinical Nursing, Regulation 74 of 1997. Pretoria: Government Printer.

SOUTH AFRICAN NURSING COUNCIL. 2005. Nursing Act , No 50 of 1978. Pretoria: Government Printer.

SOUTH AFRICAN NURSING COUNCIL. 2005. Nursing Act , No 33 of 2005. Pretoria: Government Printer.

SOUTH AFRICAN NURSING COUNCIL. 2007. Age statistics. [Web:] [http://www.sanc.co.za/stats/stst2007/Age%20stats%202007\\_files/frame.htm](http://www.sanc.co.za/stats/stst2007/Age%20stats%202007_files/frame.htm). [Date of access: 11 August 2009].

SOUTH AFRICAN NURSING COUNCIL. 2008a. Age Statistics 2008. [Web:] [http://www.sanc.co.za/stats/stat2008/Age%20stats%202008\\_files/frames.htm#slide0025.htm](http://www.sanc.co.za/stats/stat2008/Age%20stats%202008_files/frames.htm#slide0025.htm). [Date of access: 11 August 2009].

SOUTH AFRICAN NURSING COUNCIL. 2008b. Geographical Distribution of the Population of South Africa versus Nursing Manpower. [Web:] <http://www.sanc.co.za./stats/stat2008/Distribution%2008xls.htm>. [Date of access: 11 August 2009].

SOUTH AFRICAN NURSING COUNCIL. 2008c. Nursing Education Institution Output 1999-2008: 4-year comprehensive programme. [Web:] <http://www.sanc.co.za/stats.htm>. [Date of access: 11 August 2009].

SPSS Inc. 2007. SPSS®16.0 for Windows, Release 16.0.0. Copyright© by SPSS Inc., Chicago, Illinois. [Web:] <http://www.spss.com>.

STATISTICS SOUTH AFRICA. 2007. General household survey 2007. [Web:] <http://www.statssa.gov.za/publications/statsdownload.asp?PPN=P0318&SCH=4187>. [Date of access: 5 August 2009].

STATISTICS SOUTH AFRICA. 2009. Mid-year population estimates. [Web:] <http://www.statssa.gov.za/publications> [Date of access: 5 August 2009].

STEYN, K. 2007. Heart disease in South Africa. Department of Medicine, University of Cape Town & Chronic Disease of Lifestyle Unit at the Medical Research Council. Media Data Document. [Web:] <http://www.heartfoundation.co.za/docs/heartmonth/HeartDiseaseinSA.pdf>. [Date of access: 11 August 2009].

STRAUSS, A.L. 1987. Qualitative Analysis for Social Scientists. New York: Cambridge University Press

STRAUSS, A & CORBIN, J. 1990. Basics of qualitative research: Grounded theory procedures and techniques. California: Sage.

STRAUSS, A., & CORBIN, J. 1997. Grounded Theory in Practice. London: SAGE Publications.

STRAUSS, A. & CORBIN, J. 1998. Basics of Qualitative Research. Techniques and Procedures for Developing Grounded Theory. 2<sup>nd</sup> ed. London: SAGE Publications.

TABACHNICK, B.G & FIDELL, L.S. 2001. Using multivariate statistics. 4<sup>th</sup> ed. Boston: Allyn & Bacon.

TERRE BLANCHE, M., DURRHEIM, K., & PAINTER, D. 2006. Research in Practice. Applied methods for the social sciences. 2<sup>nd</sup> ed. Cape Town: UCT Press.

THOM, A. 2003. A Losing Battle? [Web:] [http://www.health-e.org.za/news/easy\\_print.php?uid=20030202](http://www.health-e.org.za/news/easy_print.php?uid=20030202). [Date of access: 3 February 2007].

TORRES, B.L., & BOSHER, W.C. 2009. Frontline Nursing leaders and staff retention in an acute community hospital. Virginia Commonwealth University. (Unpublished doctoral thesis).

ULRICH, B.T., LAVANDERO, R, HART, K.A., WOODS, D, LEGGETT, J & TAYLOR, D. 2006. Critical Care Nurses' Work Environments: A Baseline Status Report. *Critical Care Nurse*, 26(5):46-57.

ULRICH, B.T., LAVANDERO, R., HART, K.A., WOODS, D., LEGGETT, J., FRIEDMAN, D., D'AURIZIO, P., & EDWARDS, S.J. 2009. Critical Care Nurses' Work Environment 2008: A Follow-up Report. *Critical Care Nurse*, 29(2):98-101.

UNIVERSITY OF PRETORIA. 2007. Student Research Ethics Committee. [Web:] [http://www.up.ac.za/academic/healthsciences\\_old/ethics/studentsProtocol.html](http://www.up.ac.za/academic/healthsciences_old/ethics/studentsProtocol.html). [Date of access: 2 October 2007].

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO. n.a. The Critical Care/Trauma Clinical Nurse Specialist. [Web:] <http://www.nurseweb.ucsf.edu/spec-cct.tm>. [Date of access: 3 February 2007].

VAN BOGAERT, P., CLARKE, S.P., VERMEYEN, K., MEULEMANS, H. & VAN DE HEYNING, P. 2009. Practice environments and their associations with nurse-reported outcomes in Belgian hospitals: Development and preliminary validation of a Dutch adaptation of the Revised Nursing Work Index. *International Journal of Nursing Studies*, 46:55:65.

WALKER, L.O., & AVANT, K.C. 1983. Strategies for theory construction in nursing. Connecticut: Appleton-Century-Crofts.

WALKER, L.O., & AVANT, K.C. 2005. Strategies for theory construction in nursing. 4<sup>th</sup> ed. Upper Saddle River, N.J.: Pearson Prentice Hall.

WEAVER, K., & OLSEN, J.K. 2006. Understanding paradigms used for nursing research. Blackwell Publishing.

WILLIAMS, G.D., & CLARK, T. 2001. A consensus driven method to measure the required number of intensive care nurses in Australia. *Australian Critical Care*, 14:106-115

WILLIAMS, M.J.S., KLOPPER, H.C. , KOEN, D. & COETZEE-VAN ROOY, S. 2008. Assessering in Gesondheidswetenskap-programme in 'n hoër onderwysinstelling: 'n Kritiese etnografiese studie. Potchefstroom: North-West University. (Unpublished doctoral thesis).

WISE, S. 2007. Undermining the Ratios: Nurses under pressure in Victoria in 2006. Workplace Research Center: University of Sydney: 27-28.

WOLF, G.A., & GREENHOUSE, P.K. 2006. A Road Map for Creating a Magnet Work Environment. *Journal of Nursing Administration*, 36(10):458-462.

WOLF, G., HAYDEN, M., & BRADLE, J. 1984. The transformational model for professional practice: a system integration focus. *Journal of Nursing Administration*, 34(4):180-187.

WORLD HEALTH ORGANISATION. 1948. Constitution of the World Health Organisation. Geneva. [Web:] [http://www.searo.who.int/EN/Section\\_898/Section\\_1441.htm](http://www.searo.who.int/EN/Section_898/Section_1441.htm). [Date of access: 3 February 2007].

WORLD HEALTH ORGANISATION. 2008. Establishing and monitoring benchmarks for human resources for health: The workforce density approach. *Spotlight on healthworkforce statistics*, 6. [Web:] [http://www.who.int/hrh/statistics/Spotlight\\_6\\_Nov\\_2008.benchmarking.pdf](http://www.who.int/hrh/statistics/Spotlight_6_Nov_2008.benchmarking.pdf). [Date of access: 11 August 2009].

WUEST, J. 2007. Grounded Theory: The Method. (In Munhall, P.L, *ed.* Nursing Research. A Qualitative Perspective. 4<sup>th</sup> ed. Boston: Jones and Bartlett Publishers.

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**ANNEXURE A**

ETHICAL APPROVAL CERTIFICATE: NORTH-  
WEST UNIVERSITY

---



NORTH-WEST UNIVERSITY  
YUNIBESITHI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT

Private Bag X6001, Potchefstroom  
South Africa 2520

Tel: (018) 299-4900  
Faks: (018) 299-4910  
Web: <http://www.nwu.ac.za>

Prof H Klopper

**Ethics Committee**  
Tel +27 18 299 4850  
Fax +27 18 293 5329  
Email [Ethics@nwu.ac.za](mailto:Ethics@nwu.ac.za)

11 July 2008

Dear Prof Klopper

**ETHICS APPROVAL OF PROJECT**

The North-West University Ethics Committee (NWU-EC) hereby approves your project as indicated below. This implies that the NWU-EC grants its permission that, provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

<b>Project title:</b> Leadership and policy development improving the quality of nursing in South Africa through nursing staffing and patient safety															
<b>Ethics number:</b>		N	W	U	-	0	0	1	5	-	0	8	-	S	1
		Institution			Project Number					Year		Status			
<small>Status: S = Submission, R = Re-Submission, P = Provisional Authorisation, A = Authorisation</small>															
<b>Approval date:</b> 11 July 2008						<b>Expiry date:</b> 10 July 2013									

Special conditions of the approval (if any): None

**General conditions:**  
While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:

- The project leader (principle investigator) must report in the prescribed format to the NWU-EC:
  - annually (or as otherwise requested) on the progress of the project,
  - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-EC. Would there be deviation from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-EC and new approval received before or on the expiry date.
- In the interest of ethical responsibility the NWU-EC retains the right to:
  - request access to any information or data at any time during the course or after completion of the project;
  - withdraw or postpone approval if:
    - any unethical principles or practices of the project are revealed or suspected,
    - it becomes apparent that any relevant information was withheld from the NWU-EC or that information has been false or misrepresented,
    - the required annual report and reporting of adverse events was not done timely and accurately,
    - new institutional rules, national legislation or international conventions deem it necessary.

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Prof MMJ Lowes  
(chair NWU Ethics Committee)

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**ANNEXURE B**

ETHICAL APPROVAL CERTIFICATE: PRIVATE  
HOSPITAL GROUPS

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**MEDI-CLINIC  
LIMITED**

Private hospital group

Reg. No. 1969/009218/06

Medi-Clinic Offices, PO Box 456, Stellenbosch 7599 • T +27 21 809 6500 • F +27 21 809 6756  
Strand Road, Stellenbosch 7600 • www.medclinic.co.za

5 February 2009

Mrs Ronel Pretorius  
School of Nursing Science  
North-West University  
Private Bag X1290  
POTCHEFSTROOM  
2520

Dear Ronel

**PERMISSION TO CONDUCT RESEARCH IN MEDI-CLINIC HOSPITALS**

Your research proposal entitled "*Leadership and Policy Development: Improving the Quality of Nursing in South Africa through Nurse Staffing and Patient Safety*" refers.

It is in order for you to conduct your research in our hospitals in South Africa, and I wish you success with this project.

Yours sincerely  
for Medi-Clinic Limited

  
ESTELLE JORDAAN  
GENERAL MANAGER: NURSING

*25 Years of Quality Care*

Directors: WH Aucamp, AJ Joubert, NS Matlala, KHS Pretorius, B Valodia

Company Secretary: TA Lockyer

Revised: 1 June 2008 M1552





Netcare is a registered company in terms of the Companies Act, 1973 (Act No. 71 of 1973).

1999/0001000

76 Masuda Street, Corner West Street, Sandton, 2196, South Africa • Private Bag 234, Benmore, 2010, South Africa

Telephone: +27 (0)12 664 8731/2 • Fax: +27 (0)12 664 8738

Websites: <http://www.netcare.co.za> • E-Mail: [postmaster@netcare.co.za](mailto:postmaster@netcare.co.za)

5<sup>th</sup> March 2009

Prof HC Klopper  
School of Nursing Science  
North-West University  
Private Bag X 6001  
POTCHEFSTROOM  
2520

E mail: [Hester.Klopper@nwu.ac.za](mailto:Hester.Klopper@nwu.ac.za)

Dear Prof Klopper

**LEADERSHIP AND POLICY DEVELOPMENT: IMPROVING THE QUALITY OF NURSING IN SOUTH AFRICA THROUGH NURSE STAFFING AND PATIENT SAFETY**

It is with pleasure that we inform you that your application to conduct research on: **Leadership and Policy Development: Improving the Quality of Nursing in South Africa through nurse staffing and patient safety**, at Netcare hospitals has been successful, subject to the following:

- i) All information with regards to Netcare will be treated as confidential.
- ii) Netcare's name will not be mentioned without written consent from the Academic Board of Netcare.

**Executive Directors:**

R H Fiedland BVSc (Fret), MBChB (MCh), Dip FM Gen, MBA, MRCVS (CEO); P G Nelson CA(SA) (Chief Financial Officer);  
I M Davis Dip Pharm (MPharm); V L J Lubheke MChB, M Med (Radiotherapy), MDA; K Welton CA(SA)

**Non-Executive Directors:**

M I Sacks CA(SA), AICPA(ISA) (Chairman); A P H Jammine BSc (Hons), BA (Hons (Wits)), MSc London (LSE), PhD London (LBS);  
J M Kahn BA (Law), MBA Deem (hcl), SCE; M B Kitzmann MBChB (Natal), M Med (Community Health) (Natal);  
H R Levin BCom, LLB, LL.M, H Dip Tax, H Dip Co Law (Wits); J Sherof MBChB (Wits); J A Van Rooyen MBChB (Fremantle), M Med (Cin Path)  
(Stellenbosch)


Company Secretary: J Wolpen CA(SA) FCMA FGIS

Reg. No. 190609824209

- iii) Where Netcare's name is mentioned, the research will not be published without written consent from the Academic Board of Netcare.
- iv) A copy of the research will be provided to Netcare once it is finally approved by the tertiary institution, or once complete.
- v) All legal requirements with regards to patient rights and confidentiality will be complied with.
- vi) Notwithstanding this approval additional approval will need to be obtained from the hospital management for each Netcare Hospital that gets selected to be included in the study.

We wish you success in your research.

Yours faithfully



Sharron Nell  
National Manager: Netcare Education  
Network Healthcare Holdings Limited (Netcare)

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**ANNEXURE C**

DEMOGRAPHIC CHECKLIST

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## DEMOGRAPHIC CHECKLIST FOR CRITICAL CARE UNITS

CRITICAL CARE UNIT: \_\_\_\_\_ (FOR OFFICIAL USE ONLY)

(Please mark the appropriate response with an "x")

<b>What type of unit?</b>	Medical	<b>1</b>
	Surgical	<b>2</b>
	Trauma	<b>3</b>
	Multi-disciplinary	<b>4</b>
	Other	<b>5</b>

(Please write the number in the blank space)

<b>Number of beds in your unit</b>	
<b>Number of patients in your unit on that day</b>	
<b>Bed turnover/occupancy rate for 2008 (%)</b>	

<b>Number of staff in unit on that day (inclusive of RN, EN and care workers)</b>	
<b>Full time registered nurses on that day</b>	
<b>Part time registered nurses on that day</b>	

(Please mark the appropriate response with an "x")

<b>Average patient acuity per month</b>	16	<b>1</b>
	18	<b>2</b>
	20	<b>3</b>
	22	<b>4</b>
	>22	<b>5</b>

(Please write the number in the blank space)

<b>Critical Care trained nurses working in your unit</b>	
<b>Critical Care experienced nurses working in your unit</b>	

<b>Staff turnover rate for 2008 (%)</b>	
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<b>Staff absenteeism rate for 2008 (%)</b>	
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Notes:

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**ANNEXURE D**

PRACTICE ENVIRONMENT SCALE OF THE  
NURSING WORK INDEX

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PLEASE MARK AN "X" IN THE BOX CORRESPONDING TO YOUR ANSWER IN EACH QUESTION OR SUPPLY THE REQUESTED INFORMATION.

A. ABOUT YOUR JOB

1. Please indicate the extent to which you agree that each of the following features is present in your current job.

	Strongly Disagree	Somewhat Disagree	Somewhat Agree	Strongly Agree
1. Adequate support services allow me to spend time with my patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Physicians and nurses have good working relationships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. A supervisory staff that is supportive of nurses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Active staff development or continuing education programs for nurses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Career development/clinical ladder opportunity.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. Opportunity for registered nurses to participate in policy decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Physicians value nurses' observations and judgments.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. Enough time and opportunity to discuss patient care problems with other nurses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Enough registered nurses on staff to provide quality patient care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. A nurse manager who is a good manager and leader.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. A chief nursing officer who is highly visible and accessible to staff.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Enough staff to get the work done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. Physicians recognize nurses' contributions to patient care.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Praise and recognition for a job well done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. High standards of nursing care are expected by the management.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. A chief nursing officer is equal in power and authority to other top level hospital executives.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. A lot of team work between nurses and physicians.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. Opportunities for advancement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. A clear philosophy of nursing that pervades the patient care environment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. Working with nurses who are clinically competent.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. Physicians respect nurses as professionals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. A nurse manager who backs up the nursing staff in decision making, even if the conflict is with a physician.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. Management that listens and responds to employee concerns.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. An active quality assurance program.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. Registered nurses are involved in the internal governance of the hospital (e.g., practice and policy committees).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
26. Collaboration between nurses and physicians.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
27. A preceptor program for newly hired nurses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
28. Nursing care is based on a nursing rather than a medical model.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
29. Registered nurses have the opportunity to serve on hospital and nursing committees.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
30. Physicians hold nurses in high esteem.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
31. Written, up-to-date care plans for all patients.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
32. Patient care assignments that foster continuity of care (i.e., the same nurse cares for the patient from one day to the next).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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**ANNEXURE E**  
INTERVIEW GUIDE

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Interview guide

**ENGLISH**

Research Question: What is a positive practice environment according to the critical care nurse?

1. Introduce and welcome, thank the participant
2. Explain the research (purpose and objectives) to the participant
3. How are we going to use the findings
4. Discuss informed consent process
5. Explain the interview procedure
  - a. Tape-recorded
  - b. Approximately 60-90 minutes
  - c. Transcribed and analysed – to construct a theory that will be as much a product of my understanding and your description and clarification of the concepts.
6. Role of participant
  - a. Expert in the interview – want to describe your view, tell your story, help me to interpret it

Question:

1. You work in the ICU, tell me about your environment?
2. Explain to me what makes the environment a positive environment to work in.
3. Tell me more about the element of the positive environment that you have explained.
4. Is there anything else that you think I should know to understand your \_\_\_\_\_ environment better?
5. Is there anything that you would like to ask me?

HOW/WHAT/WHEN

Interview guide

**AFRIKAANS**

Navorsingsvraag: Wat is 'n positiewe praktykomgewing volgens die kritieke-sorg verpleegkundige?

1. Stel die navorser bekend en verwelkom deelnemer, bedank deelnemer vir deelname.
2. Verduidelik die doel vd navorsing en die doelwitte
3. Verduidelik hoe bevindinge gebruik gaan word;
4. Verduidelik ingeligte toestemming proses
5. Verduidelik die onderhoud prosedure
  - a. Band-opnemer
  - b. 60-90 minute
  - c. Gaan getranskribeer en geanaliseer word en die eindproduk gaan die konstruksie van 'n teorie wees – die produk van my verstaan en jou beskrywing en uitklaring van die konsepte.
6. Rol van die **deelnemer**
  - a. Kundige in die onderhoud – sy moet haar opinie/uitkyk beskryf en my help om dit te interpreteer.

Vrae:

1. Jy werk in die ICU – vertel my van jou omgewing.
2. Verduidelik vir my wat maak dat die omgewing waarin jy werk positief is.
3. Vertel my meer van die elemente wat jy in die positiewe omgewing wat jy beskryf het sal kry.
4. Is daar enigiets verder wat jy dink ek moet weet om jou \_\_\_\_\_omgewing beter te verstaan?
5. Is daar enigiets wat jy my sou wou vra?

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**ANNEXURE F**

INFORMATION LETTER: FIELDWORKERS

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NORTH-WEST UNIVERSITY  
YUNIBESITHI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
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Web: <http://www.nwu.ac.za>

**Nursing Science**  
Tel: (018) 299 1853

E-Mail: [Ronel.Pretorius@nwu.ac.za](mailto:Ronel.Pretorius@nwu.ac.za)

\_\_\_\_\_ 2009

Dear \_\_\_\_\_,

#### INVITATION TO ASSIST AS FIELDWORKER IN A RESEARCH PROJECT

1. The School of Nursing Science at the North-West University obtained ethical clearance from the Research Ethics Committee of your hospital group to conduct non-clinical research. Due to the magnitude of the project in terms of the data that must be collected, you are cordially invited to join the project as a fieldworker. You are welcome to communicate any uncertainties and information to the researchers:

Professor HC Klopper  
International Country Partner and Promoter  
018 - 299 1717

Ronel Pretorius  
PhD Candidate and Project Manager  
082 823 5596

The following sections will provide you with an overview of the responsibilities of a fieldworker and the terms and conditions of your appointment. The project manager will discuss the document with you in person. Please feel free to contact any of the researchers at any stage during your term of employment.

#### 2. Responsibilities of the fieldworker:

- Act as the direct contact between the researchers and the data collection site;
- Be available to participate in a teleconference meeting if needed;
- The project manager will liaise a suitable date and time for the teleconferences;
- Distribute the information package on the project to the participants;
- Distribute the questionnaires to the participants on behalf of the researchers;

- Collect the responses (completed questionnaires) on behalf of the researchers;
  - Provide the interim safe storage of the completed questionnaires;
  - Inform the researchers that the completed questionnaires are ready for collection;
  - Assist the researchers in distributing invitations for the in-depth interviews for the next phase of the study;
  - Agree to treat all the data collected confidentially and not to reveal any of the information to any other parties than the researchers responsible for the project.
3. In recognition of the assistance provided in the distribution and collection of the questionnaires, the research project will reward fieldworkers to the amount of R5.00 (Five South African Rand) for each completed questionnaire received.

**Terms and Condition of payment:**

- An identification code will be allocated to each fieldworker;
  - Fieldworkers must indicate the code on each of the collected questionnaires in the assigned space;
  - Fieldworkers will be awarded R5.00 (Five South African Rand) for each completed questionnaire;
  - The amount payable will be calculated upon the conclusion of the data collection process for the questionnaire;
  - The monies will be deposited electronically into the bank account details provided in paragraph 5 of the document;
  - The Nursing Service Manager will be informed of the payment.
4. To ensure the timely and accurate collection of the data we have developed a guideline outlining the steps that will be followed. Please review the documentation as it will be discussed during the first fieldworker teleconference.

**Terms and conditions of data collection:**

- A fieldworker will be appointed for each hospital. The fieldworker will be expected to distribute and collect questionnaires from each of the adult medical ward, adult surgical ward, and adult critical care units;
- Questionnaires will be distributed to all staff members (registered nurses involved in the direct care of the patients) appointed in the selected unit/ward;
- A copy of the guideline will be distributed to fieldworkers upon signing the agreement;
- Fieldworkers are expected to distribute questionnaires on the dates set by the researchers;
- Fieldworkers are expected to collect questionnaires on the dates set by the researchers.

5. Agreement of Understanding

I, \_\_\_\_\_ hereby agree to the terms and conditions stipulated in paragraphs 1-5 of the document. I further agree to treat the data collected confidentially and not to share any of the information with any other party than the researchers. I further agree that I will not use fictional data produced by myself to complete the abovementioned documentation.

My banking details for the payment referred to in paragraph 3 follows:

Bank: \_\_\_\_\_  
Branch code: \_\_\_\_\_  
Account holder's name: \_\_\_\_\_  
Account number: \_\_\_\_\_

Signed on this \_\_\_\_ day of \_\_\_\_\_ 2009 at \_\_\_\_\_.

Fieldworker: \_\_\_\_\_  
Signature: \_\_\_\_\_

International Cooperating Partner: Professor HC Klopper  
Signature: \_\_\_\_\_

Project Manager: Ronel Pretorius  
Signature: \_\_\_\_\_

Field worker contact details:

Name: \_\_\_\_\_  
Telephone number: \_\_\_\_\_  
E-Mail: \_\_\_\_\_  
Code: \_\_\_\_\_

DATA COLLECTION GUIDELINE: FIELDWORKERS

Dear Fieldworker,

Thank you for your willingness to assist me in the mentioned research project. Please note that you are welcome to contact me at any stage for assistance or information.

You can reach me at:

E-Mail: [Ronel.Pretorius@nwu.ac.za](mailto:Ronel.Pretorius@nwu.ac.za)  
Tel: 018 299 1853  
Mobile: 082 823 5596

A copy of the questionnaire and information package for the participants is also included for your perusal. It is important that the questionnaires be distributed during the week of \_\_\_\_\_ 2009.

Ensure that you inform each participant of the following:

- To complete every section in the questionnaire with a black pen;
- That they are welcome to contact the researcher at any stage for additional information;
- The informed consent process;
- Provide them with details on when and where you will collect the questionnaires during the week of \_\_\_\_\_ 2009.

Remember that questionnaires must only be distributed to:

- Registered nurses working in any of the adult critical care units;
- Registered nurses involved in the direct care of the patient;
- Registered nurses proficient in Afrikaans and English.

**Remember to write your fieldworker code on each of the questionnaires that you receive back.**

Yours sincerely

\_\_\_\_\_  
Ronel Pretorius  
PhD candidate

DATA COLLECTION PROCESS AND DEADLINES FOR DOCUMENTATION

STEPS	RESPONSIBLE	DATE
1. Teleconference	Ronel Pretorius	To be determined
<b>PHASE ONE</b>		
1. Researcher visit data collection site and meet with fieldworkers: sign contracts & hand out guideline	Ronel Pretorius	
2. Training of fieldworkers	Ronel Pretorius	
3. Fieldworkers distribute questionnaire	Fieldworkers	
4. Fieldworkers collect questionnaire	Fieldworkers	
5. Questionnaire collection: Researcher	Ronel Pretorius	
6. Questionnaire review and payment finalisation of Fieldworkers	Ronel Pretorius	
7.		
<b>PHASE TWO</b>		
8. Fieldworkers hand-out invitations for in-depth interviews	Ronel Pretorius	

---

**ANNEXURE G**

INFORMATION LETTER: NURSING SERVICE  
MANAGERS

---



NORTH-WEST UNIVERSITY  
YUNIBESITI YA BOKONE-BOPHIRIMA  
NOOROWES-UNIVERSITEIT  
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Tel: (018) 299-1111/2222  
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**Nursing Science**  
Tel: (018) 299 1853

E-Mail :Ronel.Pretorius@nwu.ac.za

The Nursing Service Manager  
[Hospital Name]

\_\_\_\_\_ 2009

Dear \_\_\_\_\_,

## ASSISTANCE TO COLLECT DATA: RESEARCH PROJECT NATIONAL NURSE SURVEY FOR SOUTH AFRICA AND POSITIVE PRACTICE ENVIRONMENTS

The School of Nursing Science at the North-West University obtained ethical clearance from the Research Ethics Committee of the [hospital group name] to conduct non-clinical research at Netcare facilities in South Africa (Annexure A). Your facility was included in the random sample as one of the sites for data-collection.

### 1. PROJECT BACKGROUND

The project is part of an international collaboration study aiming to develop innovative workforce forecasting methods by considering volumes, quality of nursing staff and the quality of patient care. The focus of the study will be to develop scientifically validated tools that will allow South Africa to learn from the experience of other health systems and their sustainability. In addressing the work environment of nurses a PhD study focussing on the construction of a grounded theory for positive practice environments in critical care units in Gauteng will be developed. The PhD study forms part of the national nurse survey process.

### 2. NATURE OF THE RESEARCH

The project will employ both quantitative and qualitative approaches in collecting data.

STEP ONE: Data will be collected in adult medical, adult surgical and adult critical/intensive care units in your hospital.

Kindly provide us with the following information on the attached EXCEL spreadsheet (Annexure B):

- Contact detail for the unit managers of each of the relevant units. Please include the contact details of every adult medical, surgical and critical/intensive care unit in your hospital;
- Physical and postal address for the hospital.

The above information will be used to distribute a checklist to each of the critical care unit managers. The information obtained from the checklist will be used to describe the demographic context of the PhD study.

STEP TWO: The next step involve the completion of the National Nurse Survey Questionnaire. The project manager, Ronel Pretorius will contact each of the unit managers to provide verbal information on the process as soon as we have obtained the contact information.

You are welcome to contact us at any stage should you require additional information or assistance. The General Nursing Manager, [name] will receive a regular update on the progress of the data collection process.

We would also like to extend our sincerest gratitude for your assistance in this project.

Yours sincerely

---

Professor Hester Klopper  
International Cooperating Partner & Promoter

---

Ronel Pretorius  
Project Manager & PhD Candidate

---

**ANNEXURE H**

INFORMATION LEAFLET: PARTICIPANTS

---

**RN4CAST & POSITIVE PRACTICE ENVIRONMENT QUESTIONNAIRE:  
INFORMATION LEAFLET AND INFORMED CONSENT**

---

Dear Nurse Colleague,

Please complete this survey **ONLY** if you are a registered nurse providing direct patient care in an adult medical ward, adult surgical ward or adult critical care unit.

The School of Nursing Science at the North-West University (Potchefstroom Campus) is currently involved in an international project aiming to develop forecasting models for human resources in nursing in South Africa. As part of the process we will be conducting a National Nurses Survey in order to collect baseline data on the status of nursing in South Africa. You have an opportunity to influence national and international policy about nursing and health care by participating in a multi-country study to obtain information to help improve the conditions of nursing practice, make health care safer for patients, and inform public policy decisions about the nurse workforce. This study is supported by the European Union and includes nurses in 14 countries. Please show your support for improving health care by completing this questionnaire. The person distributing the questionnaires has agreed to assist the project team as fieldworker and will provide you with the dates for the return of the questionnaire.

Please read through the following information section carefully in order to decide if you want to participate in the research project. Should you agree to participate you will be requested to complete the following questionnaire. Ronel Pretorius has been assigned as project manager for the study and any questions regarding the study or the instrument can be directed to her.

**1. BACKGROUND INFORMATION ON PROJECT**

There is currently NO baseline data in South Africa with regard to the present state of nursing human resources and how it impacts on patient safety. To that end the focus of this research project will be to conduct a National Nurses Survey to establish baseline data for South Africa that will support the better organisation of health systems in South Africa.

**2. EXPLANATION OF PROCEDURE**

You will be requested to complete a questionnaire developed by an international team of experts. The completion of the questionnaire should not take more than 20 minutes of your time.

### 3. RISKS AND DISCOMFORT INVOLVED

There are no risks or discomforts involved.

### 4. POSSIBLE BENEFITS OF THE RESEARCH STUDY

Although you might not benefit directly from the study, the findings of the study will prove beneficial to nursing practice in future in South Africa.

### 5. YOUR RIGHTS AS PARTICIPANT

Your participation in the research study is entirely voluntary. You can refuse to participate or stop at any time during the study without giving any reason. Your decision to participate or not will not affect your employment status in any way. The questionnaire is anonymous; your name is not requested. **PLEASE DO NOT WRITE YOUR NAME ON THE QUESTIONNAIRE.** The information you provide will go directly to researchers and will not be made available to your employer.

### 6. ETHICAL APPROVAL

The research study has received written approval from the Research Ethics Committee of the North-West University (Potchefstroom Campus) and from your hospitals' Ethics Committee. Copies of the approval letters are available at the Nursing Service Manager of your hospital.

### 7. INFORMATION AND CONTACT PERSON

The contact person for the study is Ronel Pretorius. If you have any questions about the study, please contact her at 018 299 1853. Alternatively you can contact Prof Hester Klopper at 018 299 1717.

### 8. COMPENSATION

Your participation in the research study is voluntary. No compensation will be given for your participation in the study.

### 9. CONFIDENTIALITY

All the information that you give will be kept strictly confidential. Once the data have been analysed no one will be able to identify you. Research reports and articles in scientific journals will not include any information that may identify you or your company of employment.

**Please note:** By completing and submitting the survey, you are giving your consent to participate. Due to the anonymity of the questionnaire we will not be able to trace your questionnaire once you have submitted it.

## **CONTACT DETAIL: INVESTIGATORS**

Professor Hester Klopper

E-Mail: [Hester.Klopper@nwu.ac.za](mailto:Hester.Klopper@nwu.ac.za)

Tel: 018 299 1717

Ronel Pretorius

E-Mail: [Ronel.Pretorius@nwu.ac.za](mailto:Ronel.Pretorius@nwu.ac.za)

Tel: 082 823 5596

### **INSTRUCTIONS TO COMPLETE QUESTIONNAIRE:**

1. Please complete all the sections of the questionnaire,
2. Use a black pen to indicate your response;
3. Please mark an "x" in the box corresponding to your answer in each question, or supply the requested information.
4. Return the completed questionnaire to the fieldworker.
5. Please ensure that you return a total of 7 pages in the completed questionnaire.

Thank you for your time.

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**ANNEXURE I**

**INFORMDED CONSENT DOCUMENTS**

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NORTH-WEST UNIVERSITY  
YUNIBESITHI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
POTCHEFSTROOM CAMPUS

Private Bag X6001, Potchefstroom  
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Tel: (018) 299-1111/2222  
Web: <http://www.nwu.ac.za>

Tel: 018 299 1853  
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## TITLE OF THE STUDY

Positive Practice Environments in Critical Care Units: a Grounded Theory.

Dear Participant,

### 1. INTRODUCTION

You are invited to participate in a research study. This information letter will assist you with your decision to participate in the research study. Before you agree to take part you should fully understand what is involved. If you have any questions that this letter does not fully explain, please do not hesitate to ask the researcher, Mrs. Ronel Pretorius.

### 2. THE NATURE AND PURPOSE OF THE STUDY

No evidence exists for research conducted in a South African context that explores and describes the environment of the critical care nurse. The aim of this research study is to develop a grounded theory for positive practice environments in critical care units in South Africa. As a registered nurse working in the critical care environment you are a very important source of information on practice environments. The data collected from you as participant will greatly contribute to the construction of a theory that is grounded in the data as you experience it.

### 3. EXPLANATION OF PROCEDURES

This research study involves exploring and describing the concept positive practice environments in order to construct a theory. As a participant you will be asked to participate in

an in-depth interview on the concept positive practice environments. The interview will be conducted by the researcher, Mrs. Ronel Pretorius.

#### **4. RISKS AND DISCOMFORT INVOLVED**

There are no risks in participating in the research study. If some of the questions asked during your in-depth interview make you uncomfortable, you do not need to answer them. Some of the processes involved in collecting the data will take some of your time. The in-depth interview will take approximately 60 minutes per participant. The researcher will schedule the time with you and your supervisor in advance.

#### **5. POSSIBLE BENEFITS OF THE RESEARCH STUDY**

Although you might not benefit directly from the study, the findings of the study may prove beneficial to the future practice environments of critical care nurses in South Africa.

#### **6. YOUR RIGHTS AS PARTICIPANT**

Your participation in the research study is entirely voluntary. You can refuse to participate or stop at any time during the study without giving any reason. This includes the participation in the in-depth interview. Your withdrawal will not affect you or your work environment in any way.

#### **7. ETHICAL APPROVAL**

The research study has received written approval from the Research Ethics Committee of the North-West University (Potchefstroom Campus) and from your hospitals' Ethics Committee. Copies of the approval letters are available at your request.

#### **8. INFORMATION AND CONTACT PERSON**

The contact person for the study is Ronel Pretorius. If you have any questions about the study, please contact her at +27 82 823 5596. Alternatively you may contact her promoter, Professor HC Klopper at +27 18 299 1830.

#### **9. COMPENSATION**

Your participation in the research study is voluntary. No compensation will be given for your participation in the study.

## 10. CONFIDENTIALITY

All the information that you give will be kept strictly confidential. Once the data have been analysed no one will be able to identify you. Research reports and articles in scientific journals will not include any information that may identify you or your company of employment. Please complete the following section and ensure that you receive a signed copy of the document.

Yours truly,

\_\_\_\_\_  
Ronel Pretorius  
PhD Candidate

\_\_\_\_\_  
Prof Hester Klopper  
Promoter

### POSITIVE PRACTICE ENVIRONMENTS IN CRITICAL CARE UNITS: A GROUNDED THEORY

I confirm that the person asking my consent to take part in the research study has told me about the nature, process, risks, discomforts and benefits of the study. I have also received, read and understood the above written information regarding the study. I am aware that the results of the study, including personal details, will be anonymously processed into research reports. I am participating willingly. I have had time to ask questions and have no objection participate in the study. I understand that there is no penalty should I wish to discontinue with the study.

Please complete the following section:

Participant's name: .....

Participant's signature: .....

Date: .....

Researcher's name: .....

Researcher's signature: .....

Date: .....

---

**ANNEXURE J**

EXCERPT: INTERVIEW

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**Participant code:** 02

**Interview #2**

**Date:** 26 May 2009

I: Interviewer

R: Respondent

I: You work in the critical care environment. What makes your work environment a positive practice environment?

R: I think a positive practice environment is an environment that is healthy: Structurally healthy, clinically good practice, well staffed, good communication and an excellent standard of care.

I: What do you mean when you say structurally healthy?

R: Well, in my ICU – you haven't been into my ICU?

I: No.

R: Okay. My ICU is 2 years old. It's beautiful – state of the art. It is the epiphany of what an ICU should be. It's taken us a long time to get there. We came out of an ICU here, which I can't even show you because its busy being knocked around. But it was beds too close; ceilings too low; it had wallpaper on the walls; it didn't have enough wash hand basins. It was un-user friendly. Ergonomically it was really difficult to work in. It was just a really poor working environment. And that was difficult. I think it makes it even harder for the staff. To have enough bed space; to be able to move freely; to not cross-contaminate accidentally. Just giving the girls a beautiful environment. The right colors and the floor is pretty and it looks clean and it smells fresh; it is not noisy because of the way it's been built. I think that is all really, really important, cause it leads to mental health, you know, improve mental health in the staff and an improved attitude to their work. Which we definitely see, because I've had the same staff for the bulk and we've seen a change. Where they strive to be better, because their environment is so fabulous. So it's been interesting.

I: So, it seems that the structure, that seems to be important. You also said something about clinical practice...

R: I think clinical practice... we've got to strive for all aspects of best practice. Standards have slipped. I mean: we all know that. I've been ICU since 1980. So, we've seen there's a huge change, and for a variety of reasons. But I think we have to... You know, I've just keep saying the mantra: You can't let your standards slide, because if we don't do it right, who the hell's going to do it right? We're supposed to be the best in the hospital. But it is: it's and ongoing battle to maintain standards and to keep clinical practice free of nasty shortcuts. I don't mind shortcuts as long as they're not nasty and anything that's detrimental to the patient, I think that's really, really important. And that's one of the reasons I stuck with the ICU nursing, because I just wasn't prepared to let go.

- I: Why would you say that clinical practice has such an enormous influence on a positive practice environment?
- R: You've got to do it right. You know this is, I mean this is purely my opinion, but to me if you know you should be turning your patient two hourly, for example, doing mouth care four hourly and catheter care regularly, that is a basic. That is a basic human right. If you neglecting that, your patient's so far from getting anywhere near from what he deserves. And I believe, if you know you are not doing the right thing all the time, you don't feel good about yourself. There is no pride in your work, and then it's just a job. To me nursing and it sounds very ridiculous, but to me nursing has to be more than simply a job. You don't come and do this just to get paid. There are better ways to get paid, believe me. You have to do it because you actually genuinely want to do it.
- I: So, it's a passion.
- R: Ja. And it's got to be more than come to work, clock in, feed the patient, change the drip, turn them over, and go home. It has to be more than that, because you're interpreting the whole time. You have to relate to your patient, you have to know what the families are doing, you have to... Is the patient better than yesterday, or worse than yesterday? And a lot of people do just come to work and... "O well, I wasn't here yesterday, so I don't know". But that's so far from best practice, or good clinical practice. That's scary.
- I: So, if I hear you now, you say that you need to have the structure, the ergonomics in your unit. You also need to have clinical competence of the nurses.
- R: Absolutely.
- I: What else would make an environment positive to practice?
- R: I think good management structure. I think the structure where the staff feel supported, understood, welcome, Ja where the staff can feel at home. It has to be this is my spot and I'm okay in my spot. And if I've got a problem (name) will sort it out or (name) will sort it out. And if (name) can't manage then (name) will manage and they work as a cohesive group, because they are... they are enormously good friends and they are incredibly supportive of each other most of the time. Every now and again we have the wheels off. But on the whole they feel... they have the sense of ownership and a sense of that kind of they're buffered from anything horrible that might happen to them. You know that if... Salary negotiations, for example, that we will go out and we will negotiate fairly for them. I think they need that sense of protection and being part of the team. I think that's very important for the staff. And ja, I think they need to feel loved and supported and that I understand them and that I know that if they're daughter's sick, I will ask: "How is your daughter? Is she better. What are you doing about it? Do you need any help?" I think that's important.
- I: You mentioned salaries. Do you think that that still has a great influence on the practice environment of the nurse, or do you think...?

R: I think it's a habitual... it does have an impact, but I think nurses habitually are so used to being the underpaid minion who's kind of the underdog. They... We've recently just given our staff a 10% increase, which I think is very fair considering the economic climate we are in. And yet I was horrified actually, because they came back to me and they said: Well, this isn't enough. Now, I said: Gee, I got 10% and I was thrilled, because we, you know, as management, we've had lesser increases for the past few years... So, when we got 10% I was chuffed. Ja, and then they said it's not good enough. So, we're in the process of... They negotiated with management, we've set it up so that they could speak to the big 'Cahuna's'. And we're waiting for feedback, it's taken three months. But I think they still feel under-rewarded for their skills. And a lot of my staff would say: If you consider the responsibility I carry, like on a Saturday or a Sunday, especially at night... During the day it is okay, during the week, because the doctors are here. But, you know, I'm making the decisions, I'm calling the shots, I'm deciding what we should give, I'm deciding whether we should increase or decrease inotropes. I'm making that call. And it's all riding on me. And for that you're paying me R16,000.00 a month. Ja, there is... So, it's still a big driving force. And nurses do move for salaries. Nurses will move for R500.00 a month more. They are... They're still doing it.

I: Do you think that there's something internally in every nurse that can contribute to a positive practice environment? Specifically the critical care nurse?

R: Yes, because I think most critical care nurses have chosen to do it, because it... I still maintain critical care nursing fulfills a need in the nurse: we're all control freaks; we like that I know my patients; how long his toenails are; I know what his potassium is; I know what his last white cell count was; I know exactly what the trends are. It's that. And I think that contributes: if you can get that out of the functioning, that contributes. Because that means that the patient is getting exactly what he needs. And I think communication with the doctors and the rest of the team is good. So I think that can... I think a lot of nurses slide into negativity very easily and I think a lot of nurses... A lot of nurses have a lot of social problems. A lot of very competent women seem to have married very incompetent men who impact negatively on their lives. A lot of my absenteeism and un-booked annual leave and all that, is marital issues or family issues.

I: So would you say that the social side of a nurse also has an influence on her practice environment?

R: Ja. Very, very greatly.

I: So, it's not separated from each other. She brings it to work with her?

R: I think a lot of the time they can't do anything but bring it to work. Ja, we try to talk about it and try to remind them to leave home problems at home. But I think, you know, if you've got a child who's run away from home or who's taken drugs, or whatever. I think it's there with you. And I think because a lot of them are under such financial pressure, because they are the sole breadwinner of a very big, very extended family, I think it does impact negatively. Because they do do too much overtime, far too much overtime.

I: Do you think it's the demographic of South Africa that we have these extended families that one person needs to care for...

R: And it's getting worse. I think that HIV... I know my staff are quite open about it and you know they'll say: My sister just died of HIV and now I'm looking after her three children. You know, and... I mean, I know... I'm a mother and I think: I've I have to take on all my nieces and nephews as well, I wouldn't be able to educate them. Many can't. It's physically not possible. And I think it also contributes to the feeling of they need bigger salaries. Or that sort of going back to nurses who are underpaid and overworked. You know, it's because they're home needs have just expanded. Or the bulk of my staff are caring for an extended family.

I: You mentioned earlier something about doctors. Do you think that the multi disciplinary team plays a role in the creation of a positive practice environment...

R: Absolutely.

I: ...in a critical care unit?

R: Absolutely. I think the closer you work, the better. I think we're very lucky here, because we have a set of very young dynamic physicians, they are all under the age of like 42, and they aren't the shouters. They aren't sort of... They seem to be of a different school. So they don't go shouting and raving and major ego's. They've all taken the time to understand the staff. And they do know the staff. They address them by name, they know who and what... There's lots of teasing and joking and sort of in-teasing. One of my physicians even conducts... He does he's ward round every now and again in Zulu, because he's a farm boy, which annoys me, because I can't understand him. But then I go along and he translates for me. But I think all that helps build-up, because they also know... And I know, sometimes it comes back and it bites us, because, you know, senior management will say: Your doctors know what your staff are earning, and you say, but they talk. They do. They're part of the team. It's a team approach. And our teams, I mean, the team in critical care is quite big, because it's the doctors, it's the x-ray girls. We have a good relationship with them, we're treated as a priority. Pharmacy treats us as a priority as well. And all the physiotherapists, occupation therapists, speech therapists, ... You know, it goes on and on. And to a greater of lesser degree, there's a relationship. But... There is... It's all part of the team, yeah, and I think it does contribute. And our doctors also work very very hard too. They actually do in-service teaching with us. They'll come into the units with the laptop and they'll quickly do something on anterior MI, for example. You know, just 10, 15 minutes or on a Friday afternoon will do interpretation of blood gasses. You know, so they are contributing and they are trying to up-skill us. And it is very much a team approach. But I think it does make a healthier environment. I've worked in units ...(phone call)...

I: Please take the call...

R: Where was I?

I: Doctors contribute...

- R: Ja, I've worked in units where the doctors have been, you know, tend to explode and be verbally abusive and all the rest. And that's very destructive, because there's no trust. You know. And I know my guys would say: Why are you phoning me? You know what to do. And I think that builds confidence as well. And it's: Okay, Dr. X trusts my judgment and he knows I'm going to do the right thing, because he feels I'm competent. It is a vote of confidence.
- I: Okay. Do you think there is anything else that I should know to understand your definition of a positive practice environment better?
- R: I think for a long time ICU's weren't about staff at all. The staff were completely secondary. I mean, I think of some of the ICU's I've worked in, you know, where you just never got to go and empty your bladder, because the toilet was so far away – you were completely *incommunicado*, you know, if you went to go and have a wee. And you were so scared to leave your patient. I mean now, we can just bellow and everyone in the loo can hear us, you know. But it's those kind of changes, I think it has become a far more well thought out design process and I know when we were doing my new unit, it's looking at the staff. We are an aging ICU population. Which is shocking. But we are. The majority of us are over 40. Quite a lot of over 50's. And some heading for retirement. And they're still actively bedside nursing. But we looked at things like electric hoists and electric beds. And everything with... I try to do and design everything that I could to make it an easier work environment for my aging ICU nursing population. Which is a sad indictment of where we're at.
- I: It is.
- R: It is. When I started in ICU Prof. X was actually my unit manager. She was my first ever ICU unit manager, and she said: You're ICU years are over at 35. I think I've got 4 members of staff under 35. Ja, so it's interesting: times have change.
- I: Definitely. You seem to want to add something.
- R: I think we need to... I think one of the best things for a positive practice environment is continued teaching, continued learning, continued upping of educational standards. I think it's so important. It has to remain a very very dynamic environment. We have to change. We have to adapt to the new stuff that's coming out. We have to keep abreast of what the international trends and standards are. We can't let ourselves slide. And that often is quite a difficult thing. It's: well, I've been doing it for the past 25 years, why do you expect me to change now? But... So that's an ongoing process, and I would like, in an ideal world, to spend more time and energy on that, because very much, you know, you're sort of busy rushing through your every day. I would like to have more time to focus with the staff, on: what is internationally accepted standards. You know, whatever. In whatever area: dressings or hand washing techniques or ventilation or whatever. That's what we need to do. And I think that would be very positive.
- I: Do you have your own clinical facilitator for intensive care?

R: I do. I have had a terrible clinical facilitator for the past 2 years. Who, if she is in ICU 20 minutes a week, it's a lot. So, she's been of no value. 'Cause there are lots of areas that do need addressing. I'm starting a new clinical facilitator on the 1<sup>st</sup> of June and I am thrilled, because I think we're then going to see a massive change, because she's very academic, she is right on the ball with all the latest trends. She's right up there. And clinically she's very very strong.

I: Obviously she needs to be ICU trained.

R: She is ICU trained. She's ICU trained, she's trauma trained and she's done neonates as well. So I think we've got a winning formula. And she's a perfectionist. So, I think it's going to work.

I: Is there anything that you would like to ask me?

R: Not really. I just think it's fascinating that someone's finally taking the time to do research. About us.

Interview concluded with the discussion taking a more personal direction.

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**ANNEXURE K**

EXCERPT: FIELD NOTE

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## Positive Practice Environments in Critical Care Units: A grounded theory

Field notes  
Interviews

**Participant code:** 01

**Date:** 22 May 2009

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Interview was scheduled three days prior to meeting.

- Arranged with the PA of the nursing service manager;
- Used the boardroom located in the management block of the hospital;
- Room quiet with a comfortable temperature;
- Set up room (arranged chairs away from the table and made sure that the digital recorder was working);
- Participant arrived on time – initially spend some time making small talk. She was working today, but the unit was very quite at the moment;
- Arranged with the shift leader to spend approximately 1 hour out of the unit;
- Participant engaged eagerly during interview;
- Good eye contact and open non-verbal communication;
- Appeared to be very relaxed;
- Sometimes felt as though she drifted away from the topic. I allowed her some free space but eventually had to draw her back to the phenomenon under investigation;
- Major elements that emerged during her interview to be explored during analysis:
  - Internal motivation (passion, ambition, family, motivation);
  - Doctors and nurse relationships;
  - Opportunities;
  - Characteristics of environment;
  - Teamwork.

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**ANNEXURE L**

EXCERPT: MEMO

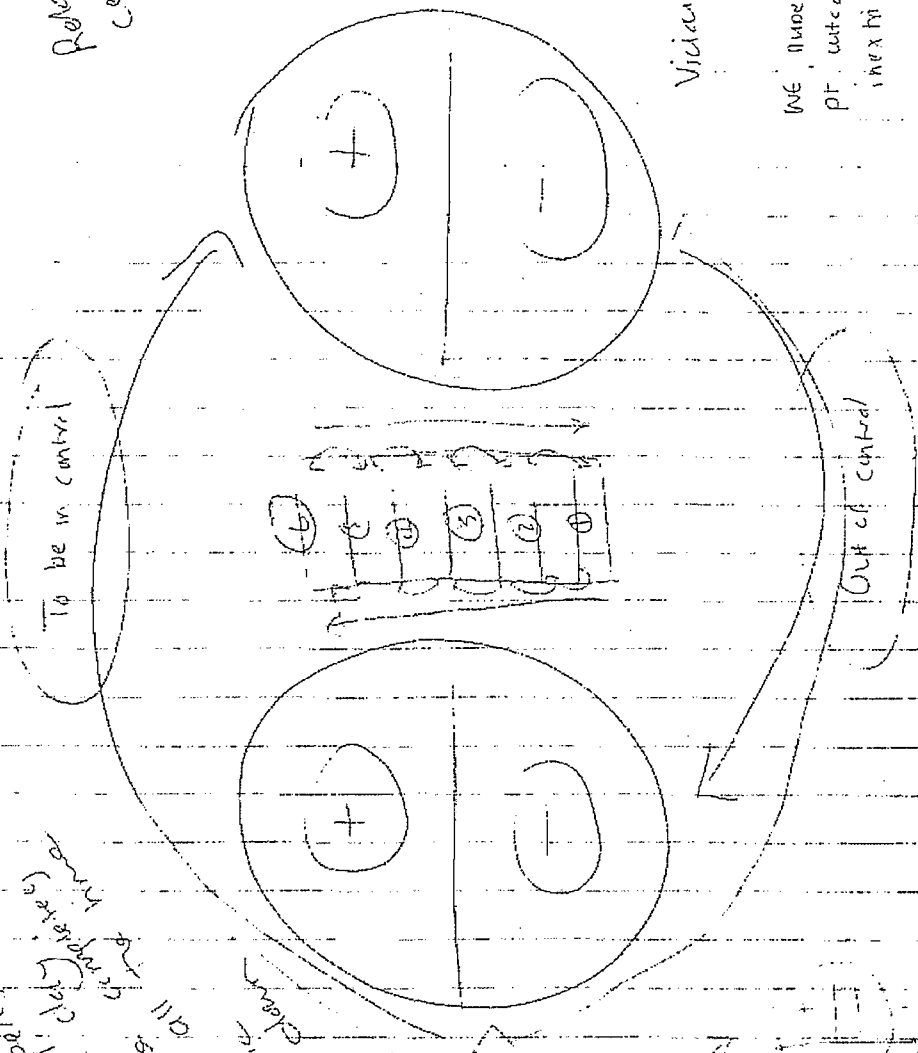
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Relax Mrs. H. H.  
Central environmental.

Prof id < passion  
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Envir < sh  
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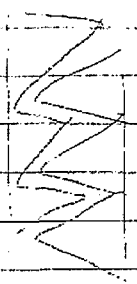
Vicarious

WE: more outcomes +  
PT: outcomes are  
          hierarchically linked.



(Constant)  
practice happens  
in never as complete  
can never do complete  
in control all the time  
LTP and  
Dynamically  
change

— puzzle, components  
that must be in  
equilibrium. They will never be  
perfectly aligned all the way.



*Soli Deo Gloria*

