

**SELF-ASSESSMENT OF MANAGERIAL COMPETENCIES OF
NURSE MANAGERS
IN SOUTH AFRICA – IDENTIFYING THE SKILLS GAPS**

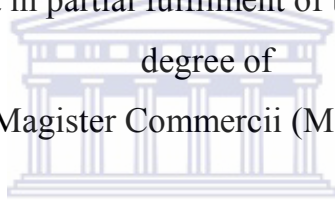
by

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ABSTRACT

Self-assessment of managerial competencies of nurse managers in South Africa – identifying the skills gaps

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Broad access to healthcare services is a key factor of human development in any country. The current health care situation in South Africa can be diagnosed as critical. The hospitals are understaffed, over-occupied and the diseases like Human Immunodeficiency Virus (HIV) give health care workers additional challenges. The demand for management skills in the health sector including those for nurse managers is high. A recent World Health Organization (WHO) study of nurses working in maternal health services identified good management as more important than salary, unless the remuneration was dramatically higher. In South Africa, little empirical research exists about the management skills of nurse managers, even though proper management of human resources is vital to achieve better outcomes and access to health care around the world. In South Africa, a greater focus on human resource management in health care and more research is needed to develop new policies that will help to address the skills gap of nurse managers.

The object of this research project was to identify the gaps between required and existing management skills of senior nurse managers in South Africa in private and public hospitals. Once identified, this skills gap assessment can be used by employers and policy-makers to define the management education that nurse managers require.

The research is based on a survey of nurse managers in private and public hospitals using a questionnaire. The survey instrument was based on prior

research of hospital managers' competencies in South Africa, and a review of the related theoretical literature.

July 2008



DECLARATION

I declare that *Self-assessment of managerial competencies of nurse managers in South Africa – identifying the skills gaps* is my own work, that it has not been submitted before any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged as complete references.

Solveig Zechner, July 2008

Signed:



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LIST OF ABBREVIATIONS

ACHE	American College of Healthcare Executives
ACMPE	American College of Medical Practice Executives
ACPE	American College of Physician Executives
AIDS	Acquired immune deficiency syndrome
ANOVA	Analysis of Variance
AONE	American Organization of Nurse Executives
CBO	Community based Organisations
CHC	Community Health Clinic
CIA	Central Intelligence Agency
DHS	District Health System
GDP	Gross Domestic Product
HCM	Health Care Management
HIMSS	Healthcare Information and Management Systems Society
HIV	Human Immunodeficiency Virus
HLA	Healthcare Leadership Alliance
HR	Human Resources
HRD	Human Resource Development
HRM	Human Resources Management
HST	Health System Trust
IT	Information technology
KSA	Knowledge, Skills and Abilities
MDG	Millennium Development Goals
NCHL	The National Center for Healthcare Leadership
NEI	Nursing Education Institutions
NGO	Non Government Organisation
NSP	National Strategic Plan
PHC	Primary Health Care
SADC	South African Developing Countries
SANC	South African Nursing Council
SKA	Skills, Knowledge and Abilities

TB	Tuberculosis
UK	United Kingdom
USA	United States of America
UWC	University of the Western Cape
WHO	World Health Organisation



1 INTRODUCTION AND BACKGROUND

1.1 Introduction

Access to health care services is a key factor in the human development of any country. Short life expectancy, infant mortality and high rates of infectious diseases are indicators of inadequate or inaccessible health care service (WHO, 2008).

Technological advances, demographic transitions, rapidly changing patterns of morbidity and mortality, and the emergence of public health problems such as HIV/AIDS all indicate the changes in the health care sector (WHO, 2006c). The demand for changes in the health sector is world-wide and the reasons are the same. Resources are often limited and the requirements have grown. Leaders in many countries are being faced with the need for massive change as the roles and responsibilities of health care managers, including nurse managers have expanded without adequate education (Booyens, 1993, p. 462; Mathena, 2002, p. 136-142; Shaw, 2007, p. 8).

Dr. Lee Jong-wook Director-General World Health Organization (WHO, 2006c, p. xiii) gets right to the point, saying, “In 2003, before I took up the position of Director-General, I asked many leaders and decision-makers in health what they saw as the most important issues in their countries. One common theme, whether in developed or developing countries, was the crisis in human resources.” Like most countries in the world, South Africa sees the demand of changes in the health sector as well. Dr. Chetty (Department of Health, 2004a, p. 5) described the situation in South Africa as follows: “The health delivery system has witnessed numerous changes since 1994. In the last few years we have been committed to continued legislation change and to the implementation of policies adopted since 1994. Much progress was made in this period but many challenges lie ahead”.

In 2000, South Africa was one of 189 countries which signed the Millennium Development Goals Declaration. The declaration includes eight millennium development goals (MDGs) for development and poverty eradication whereby three of these eight goals are directly health related (Travis et al., 2004). However, it can be assumed that the MDG health targets which are reducing child mortality, improving maternal health, and combating HIV/AIDS, malaria, and other diseases will not be achieved (Travis et al., 2004). Also, South Africa is unlikely to achieve these goals as child mortality as well as HIV did not reduce much (WHO, 2006c; WHO 2006d). The major barriers and challenges to achieving the health goals are lack of human resources, financing, drugs and supply systems, and the poor generation and use of information (Travis et al., 2004). Travis et al. (2004) identified inappropriately skilled staff

and weak planning and management as two of several health-system constraints. They argued that common responses to these constraints are unlikely to improve the health-systems.

According to Travis et al. (2004) more knowledge and research about health-care systems and their effectiveness are necessary. Similar concerns are underlined in the South African Health Review 2007:

However, both planning and monitoring and evaluation require good information.

Currently the South African public health sector has an abundance of data which has not been converted into useful management information. Managers, at all levels of the system, need better information that can detect changes in performance, monitor progress and which supports decision making (Barron et al., 2006, p. iv).

A refocus on human resources management in health care and more research are needed to develop new policies and effective human resources management strategies are needed to achieve better outcomes from and access to health care around the world (WHO, 2007f).

This research aims to make a contribution to develop effective human resource management strategies in the health care sector and to guide the design of appropriate programmes aimed on enhancing management capacity in the health care sector in South Africa.

First, the health care system in South Africa is described to provide the background nurse managers are working in. Then the related management and health care literature is reviewed. In Chapter 3, the research methodology is explained. Chapter 4 presents the results of the survey and in chapter 5 the results are discussed and conclusions are drawn.

1.2 Health Care Services During the Apartheid Era

Prior to 1994, health care delivery was built on apartheid philosophy, which was based on racial segregation and discrimination against the majority of the people. There were 14 Departments of Health, each having its own goals (Department of Health, 1999). Whites were privileged and favoured throughout, above the greater Black mass. Inequality existed between the two groups to secure the 'purity' of the White. Health care employees were also trained, placed, and remunerated according to their race. In addition, facilities were disproportionately distributed and the majority of the population were not allowed to have any say in conceptualisation and distribution of services and resources (Adelzadeh et al., 2003, pp. 28-29; De Beer, 1984, pp. 31-45; van Rensburg, 2004, p. 77). According to the Department of Health (1999, para. 1),

Access to health care for rural communities and those classified as 'black' was difficult. Besides the lack of facilities, the financial burden of finding and financing

transport to health facilities and payment for health services acted as barriers to access to care. Many rural hospitals had very limited access to medical doctors and medicines were not always available at public health facilities and expensive.

In the 1980s, private hospitals were established through privatising public hospital facilities (van Rensburg, 2004, p. 94). Due to political pressure from the outside, the Brown Commission was established, which opted for mild modifications rather than real changes, especially because of the uncertainties of that time (van Rensburg, 2004, p. 90).

1.3 Current Health Care Services in South Africa

Since its transition to democracy 14 years ago, South Africa has recorded outstanding achievements in the social, political and economic area (Adelzadeh et al., 2003, p.7).

1.3.1 Legal Foundation

In 1996, the new Constitution was adopted, which protects fundamental human rights to health care and social security (De Haan, 2005, p. 2; The Constitution of the Republic of South Africa, 1996). It includes the right for everybody to have access to:

- health care services, including reproductive health care;
- sufficient food and water; and
- social security, including, if they are unable to support themselves and their dependants, appropriate social assistance. (The Constitution of the Republic of South Africa, 1996)

The centre of the reorganisation of the apartheid health system was the establishment of primary health care (PHC) through the district health system (DHS) (De Haan, 2005, p. 4; McIntry & Klugman, 2003, p. 108). With the PHC, South Africa's health policy strongly emphasises equity and the access to integrated, comprehensive primary care service (McIntry & Klugman, 2003, p. 108). High priority was given to maternal, child and women's health through a number of specific reproductive health policies to approach this commitment (Mc Intry & Klugman, 2003, p. 108).

The White Paper on the Transformation of the Health System is the policy framework for the development of the health care system. It envisages a national health system (NHS), which “integrate the activities of the public and private health sectors, including NGOs and traditional healers, in a way which maximises the effectiveness and efficiency of all available health care resources” (Department of Health, 1997, p. 6). The plan was to establish a “district health system that facilitates health promotion, provides universal access to essential health

care and allows for the rational planning and appropriate use of resources, including the optimal utilisation of the private health sector resources” (Department of Health, 1997, p. 14). The White Paper on Local Government is the policy document driving the changes at local level (De Haan, 2005, p. 5). It locates the district health system within local governments with the purpose of bringing health care closer to the people. The most important laws since 1994 are as follow:

Table 1: Important Health Care related Laws since 1994

April 1994	The Interim Constitution of the Republic of South Africa	The legislation on the lives and rights of all South Africans also have profound impact for health, shown in such tenets as the right to life, the right of all individuals to a healthy environment, the right of children to security, and rights to basic nutrition and basic health and social services.
April and June 1995	The Interim Nursing Amendment Act, The Interim Pharmacy Amendment Act, The Interim Medical, Dental and Supplementary Health Service Professions Amendment Act	The Acts replace the previous fragmented health professions councils of the republic and the homelands, with the intention of establishing new Acts with which to govern the professions.
March 1996	Restructuring the National Health System for Universal Access to PHC	The purpose is to make primary health care free for all South Africans.
March 1996	Reconstruction and Development Programme	Separate cabinet entity which functions are devolved to other departments. The loss of the office as an intersectoral link has been complained by many.
December 1996	The final Constitution of South Africa	The right to life and health entrenched in the Constitution is limited by the State’s ability to supply. The right to life is tested against the Constitution by the appeal against the Termination of Pregnancy Act brought by a number of Christians against the Minister of Health. The right to life of the unborn child is weighed against the mother’s right to bodily and psychological integrity, including the right to make decisions concerning reproduction. The appeal is overturned.
April 1997	The White Paper on the Transformation of the Health System	This document sets out a strategy to provide health care to all South Africans within the next ten years, with the emphasis on primary health care.

November 1997	The Medical, Dental, and Supplementary Health Service Professions Amendment Act	The new Council fundamentally changes the power relationships between medicine and the supplementary health professions e.g. physiotherapy. A result of this Act is compulsory community service for interns commences on 1 July 1998.
June 1997	The Nursing Amendment Act	Allows the establishment of a new transformed South African Nursing Council.
December 1997	The Medicines and Related Substances Control Amendment Act	Purpose to reduce the cost for medicines by instituting measures such as international tendering and parallel importation of medicines into South Africa, promotion of the substitution of generic medicines banning bonuses, rebates and sampling, and establishing a pricing committee to introduce single exit prices and other price lowering mechanisms.
2003	National Health Act	

Source: Department of Health 2007; Clarke & Gray, 1999

1.3.2 Structure of the Health Care System

The health sector reformation of South Africa after 1994 includes the decentralisation of the health system: “Decentralisation is the transfer of responsibility for planning, managing and financing from central government to peripheral levels of government” (McIntyre & Klugman, 2003, p. 2). Two parallel processes of decentralisation affected the health sector in South Africa after apartheid. These were a process of devolution of extensive authority to provincial and local governments and a deconcentration within provincial health departments to health districts and, in some provinces, to regions (Department of Health, 1997; McIntyre & Klugman, 2003, p. 2). In South Africa, the health care system is divided into the national, provincial, district and local level. Each sphere's responsibilities are outlined in the Constitution.

1.3.2.1 The Department of Health

The Department of Health is the central power in the health care system and has the responsibility for the health of the nation. National government makes laws and sets policies for the whole country (Cape Gateway, 2007). The Department of Health has a responsibility to

- provide leadership in the formulation of health policy and legislation, including the development of a NHS;
- provide leadership in quality assurance, including the formulation of norms and standards;

- build the capacity of the provincial health departments and municipalities, to enable them to ensure the provision of effective health services;
- ensure equity in the allocation of resources to the provinces and municipalities and their appropriate utilisation;
- provide leadership in planning for and the strategic management of the resources available for health care;
- provide services which cannot be cost-effectively delivered elsewhere;
- develop coordinated information systems and monitor the progress made in the achievement of national health goals;
- provide appropriate regulation of the public and private health sectors, and regulate health-related activities in other sectors;
- support the provinces and municipalities in ensuring access to cost-effective and appropriate health commodities; and
- liaise with national health departments in other countries and international agencies”. (Department of Health, 1997)

1.3.2.2 The Provincial Health Departments

South Africa is divided into nine provinces, which have, according to the constitution, their own individual legislatures. The provinces have (amongst others) legislative and executive powers in health and welfare services and are responsible for promoting social and economic development, which includes the delivery of primary health care (De Haan, 2005, pp. 3-12). The provincial health departments have to observe the health of the people in the provinces, and to develop and sustain a caring and efficient provincial health system. The departments should do that by establishing a province-wide DHS which is based on the principles of PHC (Department of Health, 1997).

1.3.2.3 The District Health System

South Africa is divided into 53 health districts. The purpose of the Reconstruction and Development Programme (RDP) is to have a single national health system (NHS), which is based on the DHS, where the DHS “facilitates health promotion, provides universal access to essential health care and allows for the rational planning and appropriate use of resources, including the optimal utilisation of the private sector resources” (Department of Health, 1997). One district manager is responsible for each district. He or she prepares annual plans which are in line with national and provincial policies and goals (Department of Health, 2004b). There are also cross-boundary districts at the district level. The profile and the

performance of the districts vary among rural nodes and metro districts. The Cape Town Metro district in the Western Cape, for example, has a population of over 3 million people and is among the best socio-economically developed districts in South Africa. For instance, 98,7% of the population have access to piped water. Although PHC expenditure at R341 per capita has decreased since 2001, it is ranked in the top five districts in South Africa. The utilisation rate has remained steady at around 2.7 visits per year. In contrast, Gert Sibande District in Mpumalanga has a population of nearly a million people and 86.6% of households having access to piped water. Although there has been a threefold increase (R96) in PHC expenditure per person, this is still one of the five lowest expenditures by districts in South Africa. The utilisation rate has been constant since 2003 at 1.8 visits per person (Barron et al., 2006).

1.3.2.4 The Local Level

The involvement of the community in the health system is specified in the White Paper published by the Department of Health, in 1997 (p. 17):

All South Africans should be equipped with the information and the means for identifying behavioural change conducive to improvement in their health. People should be afforded the opportunity of participating actively in various aspects of the planning and provision of health services. The Department of Health should provide the public with regular updates on progress, results and emerging issues related to its work, and should ensure that people participate in the development of national policy.

1.3.3 Primary Health Care

The PHC was adopted by the South African health care system because it was seen as the most effective and cost-effective approach to improving the population's health (Department of Health, 1997). The access to health service is at primary level through local clinics and community health centres (CHC). Primary health care services are run by nurses and should cover a comprehensive range of "preventive, promotional, curative and rehabilitation services" (Cullinan, 2006, p. 7). The number of public sector health facilities has increased since 1994. In 2007, there were 3 077 clinics, 313 CHCs, 883 mobile services and 179 satellite clinics in South Africa (Day & Gray, 2007, p. 305). 2 298 clinics have been upgraded and 500 mobile clinics have also been allocated since 1994 (Adelzadeh et al., 2003, p. 30). However, The National Primary Health Care Facilities Survey (Reagon et al., 2004, pp. 29-31) found that 17% of the clinics did not have piped water, about 41% did not have adequate consultation rooms and 58% had inadequate toilets for patients and staff. Only about 37% of

facilities have PHC norms and standards and only 46% of the clinics have a staff and training plan (Reagon et al., 2004, p. 46).

Patients that were supposed to have been treated at primary level are sent to hospitals due to the limitation of resources at PHC level, and nurses are often overworked. Sister Somana at Cecilia Makiwane Hospital in East London said, “The patient load has increased greatly since 1994. This is partly because of primary health care not taking off. The whole of the Eastern Cape is referring patients here. We often see people who should have been attended to by the clinic nurses but, because of the problems there, they end up coming here” (Cullinan, 2006, p. 8).

1.3.4 Hospital Services

South Africa has a large public health sector and a smaller but fast-growing, well-developed, resource intensive and highly specialised formal private sector (International Marketing Council, 2007a; Harrison et al., 2007, p. viii). “Health care varies from the most basic primary health care, offered free by the state, to highly specialised hi-tech health services available in the private sector for those who can afford it” (International Marketing Council, 2007a, para. 1).

At present there are 428 hospitals in the public sector and 211 hospitals in the private sector in South Africa (Day & Gray, 2007, p. 305). Hospitals are mainly for in-patients. The quality of care still differs extremely between hospitals in formerly Black or rural areas, and hospitals in urban areas, which are serving mainly white patients. There is also a perception that care is far more superior in the private sector. Doctors and nurses in public service are paid noticeably less than in the private sector and the working conditions also do not keep the personnel in the public service. The gap between the public and private health sectors needs to be reduced (Tshabalala-Msimang, 2005, p. 62).

1.3.4.1 Public Hospitals

The hospitals in South Africa can be categorised into five areas. There are 269 district hospitals, 54 regional hospitals, 12 provincial hospitals, 9 national central hospitals and 84 specialised hospitals (Day & Gray, 2007, p. 305).

District hospitals operate day and night, and have between 30 and 200 beds and a 24-hour emergency service as well as an operating theatre. For many, South Africans district hospitals are the only hospitals they will be admitted to (Cullinan, 2006, p. 11).

Regional hospitals deal with difficult health problems. They provide at least five of eight basic specialities which are surgery, medicine, orthopaedics, paediatrics, obstetrics and

gynaecology, psychiatry, diagnostic radiology and anaesthetics (Cullinan, 2006, p. 14). No norms and standards have been established for the regional hospitals. They are very often overcrowded because district hospitals send patients to regional hospitals due to the inability of district hospitals to perform basic services (Cullinan, 2006, p. 14).

According to the 1996 health audit, 33% of public facilities required renovation. Four years later, it was reported that 40% of hospital infrastructure needed replacement or major repair (Adelzadeh et al., 2003, p. 30). Budgetary limitations have also led to enormous shortages of basic things such as medicines, medical and IT equipment, beds, linen, food and other essential items (Adelzadeh et al., 2003, p. 30; Cullinan, 2006, p. 1; Harrison et al., 2007, p. viii).

1.3.4.2 Private Hospitals

There are 211 private hospitals in South Africa, but the dispersion is very different throughout the country. There are 82 private hospitals in Gauteng, which has a total population of 9 720 688, and 35 in the Western Cape (total population: 4 850 324), whereas there are 8 private hospitals in Mpumalanga (total population: 3 619 283) and 32 in KwaZulu-Natal (total population: 9 999 720) (Day & Gray, 2007, pp. 285-305). The private hospital sector is dominated by three major groups, these being Netcare, Medi-Clinic and Life Healthcare. They own more than 75% of private hospital beds and 80% of private hospital theatres, and they are mostly state-of-the-art facilities with the latest medical technologies (Harrison et al., 2007, p. viii; International Marketing Council, 2007a). The private hospital sector attracts health care workers with incentives and well equipped facilities which leads to problems in human resources for the public sector as a migration of health professionals from the public to the private sector occurs (Harrison et al., 2007, p. viii).

1.3.5 Traditional Healers

South Africa has 190 000 traditional healers, mostly in the rural areas, which provide health care to a large proportion of the Black population (De Haan, 2005, p. 10; Harrison et al., 2007, p. xiv). Traditional healers have a close relationship with their communities and exert a noticeable influence (De Haan, 2005, p.10). The relevance of the traditional healers is reflected in the Traditional Health Practitioners Bill (Bill 20 of 2007), which will create a national statutory council for the registration of these practitioners, and provide for a regulatory framework for the efficiency, safety and quality of traditional health care service for the first time in South Africa (Harrison et al., 2007, p. xiv).

1.3.6 Health Statistics

Short life expectancy, infant mortality and high rates of infectious diseases are indicators of inadequate or inaccessible health care service (WHO, 2006a). The health care sector in South Africa is in severe crisis. The current Human Development Index for South Africa is 0,653, which ranks South Africa at position 121 out of 177 countries (United Nations Development Programme, 2006, p. 285). According to the Human Development Report 2006 (United Nations Development Programme, p. 285) South Africa is one of the few countries with a declining index since 1995 (0,741). Whereas the South African education index is 0,80 and the gross domestic product (GDP) index is 0,79, the life expectancy index (the average number of years to be lived by a group of people born in the same year) is just 0,37.

1.3.6.1 Life Expectancy

South Africa is one of only 21 countries in the world in which life expectancy at birth has declined by 4 years or more between 1990 and 2001 (Day & Gray, 2007, p. 228). The life expectancy (both sexes, at birth) ranged from 82,6 years in Japan to 39,2 years in Swaziland, in 2005 (United Nations, 2007, pp. 81-83). In South Africa, the life expectancy at birth was 57 years in 1997 and 50 years in 2007 (Day & Gray, 2007, p. 230). According to the United Nations World Populations Prospect (United Nations, 2007, p. 83), the South African life expectancy rate was 49,3 in 2005, which ranked South Africa in place 178 out of 195 countries. Therefore, South Africa has one of the lowest life expectancy rates in the world (United Nations, 2007, p. 83).

1.3.6.2 Infant Mortality Rate

The infant mortality rate (the number of children less than one year old who die within a year, per 1 000 live births during that year) in South Africa was 58 in 2002 and 48 in 2007 (Actuarial Society of South Africa, 2003). According to the United Nations (2007, p. 85), the current world infant mortality rate is 49,4 and 43,52, according to the Central Intelligence Agency (CIA) World Fact Book (CIA, 2007). South Africa's infant mortality rate varies between 44,8 according to the United Nations (2007, p. 88), and 59,44 according to the CIA World Fact Book (Central Intelligence Agency, 2007).

1.3.6.3 Diseases

Considerable prominence has been given to AIDS and other poverty-related diseases like tuberculosis (TB) and cholera in South Africa (International Marketing Council, 2007a). The World Health Organization report on the global TB picture (WHO, 2007b) gave prominence to 22 “high burden countries”, including South Africa, that together account for approximately 80% of all new cases of such diseases each year. In the report South Africa was ranked 7th, based on the number of incident cases. In 2005, South Africa reported 270 178 new and relapsed cases. South Africa had almost the highest incidence (all forms) per 100 000 population per year of all the high-burden countries, which was 600, only exceeded by Zimbabwe with 601 and Kenya with 641 (WHO, 2007b, p. 24; Day & Gray, 2007, p. 235).

HIV/AIDS presents the major threat, with approximately 5,41 million South Africans being HIV-positive (National Department of Health, 2007). The first two priority areas of the HIV & AIDS and STI Strategic Plan for South Africa 2007-2011 (NSP) are as follow:

- to reduce the rate of new HIV infections by 50% until 2011; and
- to provide appropriate packages of treatment, care and support to 80% of HIV positive people and their families by 2011. (Day & Gray, 2007, p. 242)

1.3.6.3 Health Finance

Health care financing is an important factor of health systems (WHO, 2007c). In 2004 the total expenditure of the South African Gross Domestic Product (GDP) on health was 8,6%. The expenditure on the private sector was higher than on the public sector. The general government expenditure on health was 40,4% of total expenditure on health, and the private expenditure on health was 59,6% of total expenditure on health (WHO, 2007a).

While the public health sector delivers services to about 80% of the population, the private sector accommodates the other 20% of the population (Harrison et al., 2007, p. viii; International Marketing Council, 2007a). The drug expenditure varies also between both sectors. In 2000, R59,36 was spent on drugs per person in the public sector, as opposed to R800,29 on drugs per person in the private sector (International Marketing Council, 2007a).

1.3.7 Public-Private-Partnership

“South African law defines a public-private-partnership as a contract between a public sector institution/municipality and a private party, in which the private party assumes substantial financial, technical and operational risk in the design, financing, building and operation of a project” (National Treasury, 2007, para. 1). Partnerships between the public and private sector

are aimed at dealing with some of the resource and human resources shortages of the public sector (International Marketing Council, 2007b). In the “Health Sector Strategy Framework 1999 – 2004”, the Department of Health mentions the necessity of reinforcing partnerships with communities, key stakeholders, the private sector, non-government organisations (NGO) and community based organisations (CBO) as being a critical factor in providing access to reasonable, high quality health care for all South Africans. The number of public-private partnerships rose over the past five years (Shuping & Kabane, 2007, p. 151), and according to Shuping and Kabane (2007, p.157), “the introduction of public-private-partnerships in South Africa has been one of the more significant health care reforms in recent years in accelerating the efficient delivery of health care services at costs that are affordable”.

1.4 Health Personnel

Having skilled health personnel is a main factor for any health system (Padarath et al., 2003, p. 3). One of the key health sector indicators to estimate a country’s health system performance is the physician and nurse density per 1 000 population (Wadee & Khan, 2007, p. 142; WHO, 2006b). No explicit estimates of the numbers of health professionals working currently in the private and public sector in South Africa are available as it is difficult to estimate an accurate number of employees due to high mobility of many employees and the large numbers of part-time employees (Day & Gray, 2007, p. 306). However, in 2007, around 240 000 employees worked in the public health sector (National Treasury, 2007). In 2004, the physician density per 1 000 population was 0,77 and the nurse density was 4,08 in South Africa (Wadee & Khan, 2007, p. 124; WHO, 2006b, p. 5). Compared with undeveloped countries, South Africa has a high density; however, in developed countries, the density is higher. In the United States, for example, it is 2,56 and 9,37 respectively, in France, 3,57 and 7,24 respectively and in the United Kingdom 2,3 and 12,12 respectively (Padarath et al., 2003, p. 5; WHO, 2007e).

Table 2: Physician and Nurse Density per 1 000 Population

Country (year)	Physician density	Nurse density
South Africa (2004)	0,77	4,08
United Kingdom (1997)	2,30	12,12
United States (2000)	2,56	9,37
Mozambique (2004)	0,03	0,21

Zimbabwe (2004)	0,16	0,72
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Source: Wadee & Khan, 2007, p. 124; WHO, 2007e.

Three major areas face the maldistribution of health personnel in southern African countries:

- public and private sector;
- urban and rural areas; and
- tertiary and primary levels of the health system (Padarath et al., 2003, p. 1)

The Minister of Health, Dr Manto Tshabalala-Msimang (National Department of Health, 2006, para. 2) highlighted the issue of migration in 2006: “Top in the list of the challenges is the migration of health workers from rural to urban areas, from public to private health sector and from South Africa to developed countries, then the inadequate remuneration of health workers and poor working conditions”.

In countries with a more developed private sector, the maldistribution between the public and the private sector is more intensive. In South Africa, for example, in 1999, 73% of general practitioners were estimated to be working in the private sector, even if the sector provided service for less than 20% of the population (Goudge et al., 2002, p. 73).

Table 3: Overview of the Public and Private Health Personnel Distribution, 1998/99, in South Africa

Sector	Estimated dependent population (%)	General practitioners (%)	Medical specialists (%)	Nurses (%)
public	82	27,4	24,8	58,9
private	18	72,6	75,2	41,1

Source: Sanders & Lloyd, 2005

Financial resources for health in the private sector have increased. This has drawn health professionals away from the public sector to the private sector. The private sector attracts health professionals with higher remunerations, better working conditions and more ready access to advanced technology. Therefore, the health professionals migrate to the private sector, which leads to problems of human resources in the public sector (Harrison et al., 2007, p. viii; Padarath et al., 2003, p. 9).

The main reasons for health workers preferring to work in urban areas rather than in rural areas are the presence of professional camaraderie, greater likelihood of promotions,

availability of schools, good housing, leisure activities and other social infrastructure (Padarath et al., 2003, p. 12).

The third main problem mentioned by the Minister of Health is the migration of South African health workers to developed countries. South Africa experiences a net outflow of health personnel to countries like the United Kingdom, Canada and Australia (Padarath et al., 2003, p. 8; Wadee & Khan, 2007, p. 144). Around 23 407 South African health professionals are working in developed countries such as Australia, Canada, New Zealand, the United Kingdom, and the United States (Wadee & Khan, 2007, p. 145).

Table 4: Distribution of South African Practitioners Abroad, 2006

Country	Practitioners	Nurses / Midwives	Other health professionals	Total
Australia	1 114	1 085	1 297	3 496
Canada	1 345	330	685	2 360
New Zealand	555	423	618	1 596
United Kingdom	3 625	2 923	2 451	8 999
United States	2 282	2 083	2591	6 956
Total	8 921	6 844	7 642	23 407

Source: Department of Health, 2006

The reasons for the migration of the health workers are miscellaneous. There are so-called push factors from the home country, which push people to leave the country, and pull factors from the host countries, which attract people to move to the country. Push factors are low salaries, a lack of job satisfaction, work-related risks, a lack of further education and development opportunities as well as crime, war and political repressions and a lack of education opportunities for children. Pull factors from the host country are higher rates of remuneration, better work conditions, a safer working environment, career development opportunities, political freedom, and active health personnel recruitment (Padarath et al., 2003, pp. 9-10).

The consequences of health workers' migration are significant and manifold. The most obvious impact is the loss of trained staff. Even if it is difficult to assess the loss of human capital spent on training health care workers, it has been estimated that it costs about US\$50 000 to train a general practitioner in the Southern African Developing Countries (SADC). South Africa has lost an estimated 82 811 doctors between 1989 and 1997 which implies an

overall loss of training investments of US\$5 billion. Additional to the training costs, counter-productive behaviour like absenteeism, salary-augmenting behaviour, pilfering of public property and poor treatment of patients may also result from staff shortage (Padarath et al., 2003, pp. 21-22). Third, the loss of academic and qualified employees can lead to shortages within training organisations or in the supervision of new graduates, which affect the future development of health workers (Bhorat et al., cited in Padarath et al., 2003, pp. 21-22).

The Annual Report of the Department of Health identified two major priorities which would improve the human resources of the entire health sector and the quality of the care provided (Department of Health, 2006). “The Government recognizes that the future of our national health system depends to a critical extent on our ability to train enough health professionals with the right skills and to hold on to this human gold” (Department of Health, 2006, p. 6).

1.4.1 Nurses

Between 1997 and 2006, there was an overall increase in the total number of nurses on the registers from 174 550 to 196 914, and the “registered” category showed average growth of 12.5% (South African Nursing Council, 2006). In 2006, 101 295 professional nurses were registered with the South African Nursing Council (SANC), which may also include those nurses who are abroad, retired or non-practicing. Thereof, 44 071 (43,5%) were working in the public sector. In the same year, 39 305 enrolled nurses were registered, and thereof, 20 806 were working in the public sector (South African Nursing Council, 2006).

1.4.1.1 Shortage of Nurses

Even if the number of nurses increases, South Africa has a shortage of nurses (South African Nursing Council, 2006; Wade & Khan, 2007, p. 142). In many health facilities in South Africa, there are inadequate medical and support staff to cope with the workload. Hospitals lost some of their longest serving and best educated nurses to foreign countries, which recruited them with voluntary severance packages (Adelzadeh et al., 2003, p. 32).

Nurses transfer due to higher standards of living, increasing salaries, improving professional opportunities, as well as lack of job satisfaction (Kline, 2003, p. 110; Padarath et al., 2003, p. 9). A shortage of nurses concerns countries throughout the world, including Australia, Canada, France, Germany, Ireland, the United Kingdom, and the United States (Kline, 2003, p. 107). Beside Australia, Canada, the Philippines and the United Kingdom, South Africa is one of the primary donor countries, while the primary receiving countries are developed

countries like Australia, Canada, Ireland, the United Kingdom, and the United States (Kline, 2003, p. 107). The results of migration of nurses for the donor countries are the loss of “scarce and relatively expensive-to-train resources” (Buchan, cited in Kline, 2003, p. 107; Padarath et al., 2003, p. 8) and economic investment, as well as the creation of ethical concerns (Kline, 2003, p. 107).

According to the South African Health Review 2007, 36,3% of the professional nurse posts are vacant (Day & Gray, 2007). These deficiencies, both human and material, negatively influence the morale of healthcare workers.

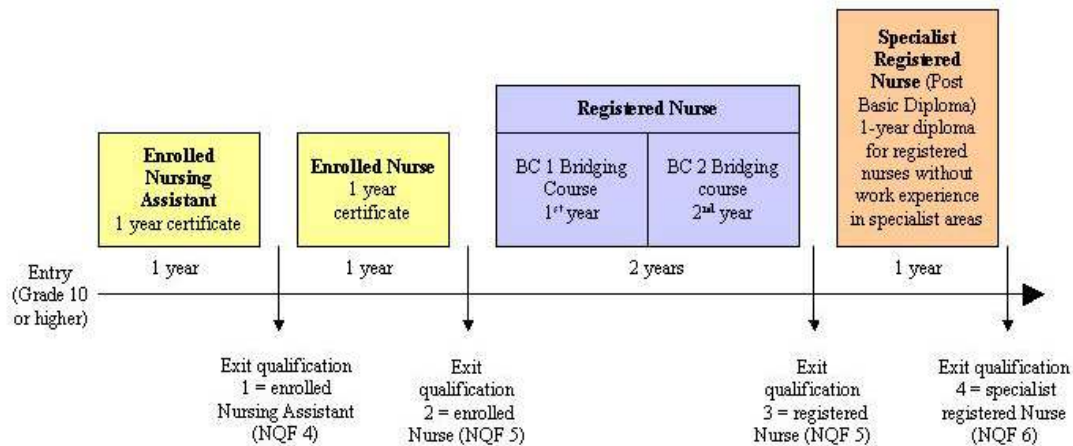
1.4.1.2 Nurse Education

The South African Nursing Council is empowered by the Nursing Act, 1978 and the South African Qualifications Authority Act, 1995 to approve nursing education institutions (NEI's) and the training programmes presented by those institutions (South African Nursing Council, 2007). The South African Nursing Council (2007) emphasises that only the student from schools and programmes which are approved by the Nursing Council will be allowed to practice in South Africa after completing their training.

Wadee and Khan (2007, p. 144) suggested that the 401 education institutions in South Africa are enough to educate adequate numbers of human resources to address the shortage in the public and private sectors. Around 36% of the colleges are private, which means that the private sector plays a role in the generation of human resources for health (Wadee & Khan, 2007, p. 144).

South Africa classifies nurses as professional and subprofessional. Professional nurses are called ‘professional’ or ‘registered’ nurses, while subprofessional nurses are called ‘enrolled’, ‘staff’ or ‘enrolled auxiliary’ nurses. The education period for a registered nurse is four years. The schedule is laid down in the Nursing Act, 1978 (Department of Health, 1978).

Figure 1: South African Nurse Council Qualification Programmes



Source: Adapted from Netcare, 2007

1.5 Definition of Key Terms

1.5.1 Nurse Manager

Many authors (Carrol & Adams, 1994; Everson-Bates, 1992; Mark, cited in Oroviogioicoechea, 1996) agree about the role of nurse managers as being that of ‘the individual with 24-hour responsibility for the management of one or two units’.

There is a consensus in the literature that nurse managers have an important role in health care organisations. They are responsible for all of the nurses and domestic staff and link employees with management and other departments, and administration. They oversee all patient care and ensure quality of care, implement the mission, vision, policies, goals, and objectives of the organisation and the nursing services within their area, and help to ensure the efficient running of the hospital, although they rarely have real power over the strategy of the hospital (American Organization of Nurse Executives, 1992, p. 36; Pedersen, cited in Oroviogioicoechea, 1996, p. 1). Nurse managers act on different management levels in hospitals, which rank from first-line nurse managers to senior nurse managers. For this survey only senior nurse managers were relevant.

1.5.2 Hospital

The word *hospital* is a generic term for a wide variety of institutions, roughly classified as “people-processing institutions for those in ill health” (Kurtz & Chalfant 1984, p. 197). In South Africa, public and private hospitals are distinct. There are currently 428 hospitals in the public sector and 211 hospitals in the private sector in South Africa (Day & Gray, 2007, p. 305). The public hospitals in South Africa can be categorised into five areas, which are

district hospitals, regional hospitals, provincial hospitals, national central hospitals and specialised hospitals (Day & Gray, 2007, p. 305).

The private for-profit hospital sector is by far the largest non-state hospital provider and is characterised by large hospital owner groups which do not employ their own health professionals (other than nurses), but rather provide their facilities to doctors and other professionals who bill patients or insurers independently from the hospital (Heunis, 2004, p. 480).

1.5.3 Management

According to the Businessdictionary (2008a, para. 1), management is the “organization and coordination of the activities of an enterprise in accordance with certain policies and in achievement of clearly defined objectives”. Daft (2008, p. 7) considered that “Management is the attainment of organizational goals in an effective and efficient manager through planning, organising, leading, and controlling organizational resources”. According to Drucker (2007), management is a task, a discipline, a function to be done whereby managers are the professionals who practice this discipline, carry out the functions, and discharge these tasks.

1.5.3 Competencies

Competency is the minimum standard somebody needs to have to perform a job (Mullholland, 1994; Wright, 2005). According to McClelland (1994), a competency is a performance capability that distinguishes effective from ineffective managers in a particular organisation. Goldstein (1995), describing the Healthcare Financial Management Association career development Model and Stockman (1999) define *competency* as the characteristic of those who are acting above the average (Robbins et al., 2001). The general human resource literature uses the model of skills, knowledge, and ability (SKA or KSA) (Shewchuk et al., 2005). *Competencies*, from this perspective, has been defined as “a cluster of related knowledge, skills, and attitudes that

- 1) affect a major part of one’s job (a role or responsibility),
- 2) correlate with performance on the job,
- 3) can be measured against well accepted standards, and
- 4) can be improved by training and development” (Lusia & Lepsinger, cited in Sherwchuk et al., 2005).

Pralahad and Hamel (cited in Calhoun et al., 2002) differentiated between ‘core competency’ and competency. According to Pralahad and Hamel (cited in Calhoun et al., 2002, p. 28) core competencies are “a bundle of technical know-how that is

- 1) central to the organization’s purpose,
- 2) translatable to perceived customers value, and
- 3) can provide a competitive advantage”.

2 LITERATURE REVIEW

The theoretical framework for the research project is a combination of Pillay’s (2007; 2008) research about the skills gap of hospital managers in South Africa’s public health care sector and a review of health care management competency models as well as the related literature about nursing management.

As it is very important to assess skills gaps systematically literature about human resource management, particularly on needs assessment, is reviewed first.

Next, the literature about general management functions and, more specifically, health care management competencies is reviewed. The literature about general management and leadership is very wide. In contrast, much less literature about nursing management is available. Very little research into nursing management was done before 1980 (Girvin, 1998, p. 40), but the international literature about nursing management has grown considerably during the last two decades.

The literature review focuses on international literature of nursing management. Very little literature is available about the managerial skills and skills gaps of nurse managers in South Africa or developing countries. Jooste (2003b,) who is one of the few persons who did research about nurse managers in South Africa as well as other South African authors (Booyens, 1993; Sullivan & Decker, 1988) who wrote about nursing management observed that generally the same managerial competencies are important for South African nurse managers as for international nurse managers. Therefore, the framework is based, besides on Pillay’s work, on international literature, mainly from the United States.

2.1 Human Resources

Educated, well-trained human resources (HR) are important for a state’s economic stability and prosperity (Jinabhai, 2005; Meyer et al., 2004, p. v) and human resource management (HRM) plays a crucial role in organisations nowadays (Becker & Gerhart, 1996, p. 779; Hongoro & McPake, 2004, p. 1451). Organisations must continually improve their

performance to be competitive in today's fast-changing environment, which is characterised by globalisation, market deregulations, mergers, short product cycles and changing customer demands (Becker & Gerhart, 1996, p. 779; Meyer et al., 2004, p. 779). Additionally, several studies indicate that HR has a significant impact on key performance outcomes (Becker & Gerhart, 1996, p. 796; Huselid et al., 1997, p. 185.)

2.1.1 Human Resources in Health

The health workforce is the most important input in any health system (Fritzen, 2007; WHO, 2006c, p. xv). The WHO (2006c, p. xv) estimates there is a total of 59.2 million full-time paid health workers worldwide. As all health care is ultimately delivered by people, the workforce has a strong impact on overall health system performance (Fritzen, 2007). Therefore, effective HRM plays a crucial role in maintaining effective health care systems (Kabene et al., 2006). Proper management of HR is critical to providing a high quality of health care (Kabene et al., 2006; WHO, 2006c). South Africa faces a crisis of human resources for health since there is a shortage of workers and a maldistribution of the health care workforce in South Africa (Wadee & Khan, 2007, p. 141)

2.1.2 Human Resources in South Africa

In South Africa, HRM has only recently received attention even though a skills development strategy for South Africa is very important (Jinabhai, 2005, p. 85). South Africa faces a huge shortage of highly skilled personnel (Department of Labour, 2003; Grobler et al., 2002, p. 340; Jinabhai, 2005, p. 85). The World Competitive Report 2007/08 ranked South Africa in place 44 out of a total of 131 countries (World Economic Forum, 2007). Concerning higher education and training, South Africa was ranked in place 56. Respondents to the World Competitive Report were asked to select the five most problematic factors for doing business in their country, and from a list of 14 factors, 'inadequately educated workforce' was ranked as the most problematic one in South Africa (World Economic Forum, 2007).

In 2001, the Department of Labour launched the HRD strategy, which emphasises the need for knowledge and training: "At the heart of the proposed HRD strategy is the belief that enhancing the abilities and skills of our people is a necessary response to our current low skills levels and unemployment. People need knowledge, skills and democratic values and, more importantly, opportunities to apply them" (Department of Labour, 2001, p. 5).

2.1.3 Human Resource Management

Human resource management is the management of an organisation's employees to achieve the objectives of the business (Armstrong, 2000, p. 6; Meyer et al., 2004, p. 2). The role of HRM has changed during the last decades. In the past, HRM was primarily concerned with the administration of the employees, whereas nowadays HRM is seen as a proactive strategy amongst business partners (Becker et al., 2001, p. 3; Grobler et al., 2002, p. 9; Meyer et al., 2004, p. 3). Only in recent years, when economic realities put pressure on HR to measure HR outcomes, did the HRM shift from an operational to a strategic function (Becker et al., 2001, p. 3; Meyer et al., 2004, p. 3). According to Becker et al. (2001, p. 3), today human resources are seen as a strategic asset: "HR and other executives view HR as a system embedded within the larger system of the firm's strategy implementation. The firm manages and measures the relationship between these two systems and firm performance". And Meyer et al. (2004, p. 4) suggest that "organisations will no longer be in a position to sit back and wait for problems to occur before training interventions are decided upon. Rather, a more futuristic approach is needed, one that will foresee future problems and take proactive action by means of training and development interventions."

2.1.4 Importance of Skills Development and Training

The importance of continuous training and development of the employees of an organisation is emphasised in the literature about HR (Becker & Gerhart, 1996, p. 779; Jinabhai, 2005, p. 87; Meyer et al., 2004, p. 779). The South African government emphasises the importance of skills development through the Skills Development Act, 1998. Advocate Rams Ramashia (2003, para. 1), the Department of Labour's Director-General, said that "the purpose of the Skills Development Act was to develop and improve the skills of the South African workforce, increase the levels of investment in education and training in the labour market and to encourage employers to use the workplace as an active learning".

Most training and development approaches include four phases, which are needs analysis, design and development, facilitation (implementation) and evaluation (Latham, 1988; Tannenbaum & Yukl, 1992). Authors of the training literature accept that needs analysis is crucial and fundamental to develop the right and effective training (Brown, 2002, p. 569; Grobler et al., 2002, p. 314; Jinabhai, 2005, p. 897; McGehee & Thayer, 1961; Tannenbaum & Yukl, 1992, p. 400). According to van Dyk & Loedolff (cited in Jinabhai, 2005, p. 88), "Needs analysis is a detailed investigation of an apparent performance problem in order to

establish real causes and to determine which of these may be addressed by training”. Most authors of training literature suppose that needs analysis is the first step in a successful approach to training (Armstrong, 1993; Brown, 2002, p.569; Grobler et al., 2002, p. 317; Jinabhai, 2005, p. 89; McGehee & Thayer, 1961; Meyer et al., 2004, p. 23). Roberts (2006, p. 476) noted, “The analysis phase is seen as the foundation to strong human resource development (HRD) practice; and in any project, a good foundation is required for a success”. The needs analysis is crucial to identify the gaps between employees’ skills and the skills required for effective job performance (Brown, 2002, p. 571). McGehee and Thayer (1961) classified the need analysis into organization analysis, operations (task) analysis and man (person or individual) analysis. McGehee and Thayer’s (1961) framework for analysing training needs is still accepted widely by most authors of training literature (Grobler et al., 2002, p. 317; Herbert, 1990, p. 253; Moore & Dutton, 1978, p. 539; Tannenbaum & Yukl, 1992, p. 401). Individual analysis targets individual employees and how they perform in their jobs, what training is needed and if employees have the prerequisite attitude and motivation to be trained (Brown, 2002, p. 573; Tannenbaum & Yukl, 1992, p. 403). According to McGehee and Thayer (1961), techniques for determining training needs on an individual level could include collecting performance data, making observations, giving tests and conducting attitude surveys, as well as holding interviews and issuing questionnaires. Questionnaires are a common method used to gather data to identify needs (Brown, 2002, p. 574; McGehee & Thayer, 1961; Moore & Dutton, 1978, p. 539; Roberts, 2006, p. 482). Incumbent self-assessment is a common method for identifying individuals in need of training (Ford & Noe, 1987; Tzeng, 2003; Wexley & Baldwin, 1986 in Guthrie & Schwoerer, 1994, p. 1). According to McGehee and Thayer (1961) the incumbents are a key source of information about skills needed to perform the job appropriately. Employees are aware of their skills’ weaknesses and are able to determine their training needs (Morano, 1973). Also, authors of later literature suggested the usefulness of training needs self-assessment (Ford & Noe, 1987; Tzeng, 2003).

2.2 General Management

In the early 20th century, Mary Parker Follet (cited in Barrett, 2003) defined management as "the art of getting things done through people", and Fayol (1949) identified five general functions of management: planning, organising, leading, coordinating, and controlling. Planning is the most basic managerial function and sets the direction for the other managerial functions, such as leading and controlling (Hellriegel et al., 2004, p. 71). It is the process of setting objectives and determining in advance exactly how the objectives will be met (Lussier,

2006, p. 11). Organising includes definition of relationships, outlining of procedures, establishing formal structures, and assigning of tasks (Marquis & Huston, 2003, p. 153). According to Lussier (2006, p. 11), a major part of organising is delegation and coordination of human resources. Leading can be defined as “the process of influencing employees to work towards achieving objectives” (Lussier, 2006, p. 11). Leaders have to create a vision, communicate the objectives and motivate employees to achieve those objectives (Lussier, 2006, p. 11; Marquis & Huston, 2003, p.11). Controlling includes establishing and implementing of techniques and instruments to ensure that the performance of individuals, groups, and teams conform to an organisation’s rules and procedures as well as to achieve the organisation’s objectives (Lussier, 2006, p.11; Simons, 1995).

Boyatzis (1982, p. 16) pointed out that “A person in a management job contributes to the achievement of organisational goals through planning, coordinating, supervision, and decision making regarding the investment and use of corporate human resources”. Miner (cited in Carroll & Gillen, 1987, p. 1), who analysed management textbooks, found that these five management functions are still elements of most management textbooks.

Katz (1955) developed a 3-stage approach, which ranges between technical, conceptual and human skills. He suggested that, at a lower management level, technical skills are crucial. The higher the management position, the less technical skills are required as more conceptual skills are required. Human relation skills are essential at all levels, according to Katz (1955). One of the strongest critics of the classical general management functions is Mintzberg (1970, 1971, 1973, 1975), who conceptualised the manager’s job in terms of 10 work roles. Mintzberg (1971) defined three interpersonal roles (figurehead, leader, and liaison), three informational roles (monitor, disseminator, and spokesman), and four decision-making roles (entrepreneur, disturbance handler, resource allocator, and negotiator).

However, Carroll and Gillen (1987) evaluated the usefulness of the classical management function perspective and concluded that the classical functions still present the most useful way of conceptualising the manager’s job. They found that “the classical functions provide clear and discrete methods of classifying the thousands of different activities that managers carry out and the techniques they use in terms of the functions they perform for the achievement of organizational goals” (Carroll & Gillen, 1987, p. 48). Additionally, according to Lussier (2006) and Hellriegel et al. (2004), all managers, independently of what they are

managing, perform four generic tasks which are planning, organising, leading, and controlling.

In the nurse manager-related literature, a consensus about the relevance of managerial skills and not just clinical skills of nurse managers exists (Chase, 1994; Mathena, 2002; Oroviogoicochea, 1996). Timmreck (2000) found that the classic functions of a manager were used extensively by health service mid-managers.

As Fayols' (1949) classical management functions are still elements of most current management theories and other nursing management-related literature makes reference to these management functions, the research project will be based on the five management functions defined by Fayol.

2.3 Health Care Management

Hudak et al. (cited in Calhoun et al., 2002) compared studies, which identified the most important skills, knowledge, and abilities for health care managers.

Table 5: Comparison of the studies identifying the most important Skills, Knowledge and Abilities

Hudak et al., 1993 (ACHE)	Hudak, 1994 (Federal CEO/COOs)	Dupperroir, 1995 (Federal Nurses)
<ul style="list-style-type: none"> - Patience, listening skills, and communications - Leadership, management, human relations - Strategic thinking and sense of vision - Understand physicians motives, needs, and politics - Conflict management, team building, and motivational leadership 	<ul style="list-style-type: none"> - Patience, listening skills, and communications - Leadership, management, human relations - Understanding managed care initiative contracts - Conflict management, team building, and motivational leadership - Strategic thinking and sense of vision 	<ul style="list-style-type: none"> - Diplomacy, tact, patience, open-mindedness, ability to visualise - Work with multidisciplinary leadership - Knowledge in case management/ utilisation review - Communicate effectively, read, write, and listen
Hudak, 1998 (ACMPE)	Sentell & Finstuen, 1998 (CEO/COOs)	Brooke et al., 1998 (Physicians in Ambulatory Settings)
<ul style="list-style-type: none"> - Listen, hear, respond - Build trust, respect, integrity - Ability and adaptability to change - Speak effectively, write with purpose, and listen attentively - Work with any types of individuals 	<ul style="list-style-type: none"> - People skills - Team building - Personal responsibility - Innovation - Communication skills 	<ul style="list-style-type: none"> - Build and maintain credibility and trust - Be honest when facing hard decisions - Articulate a course for the organisation - Persuade others to work as a team and achieve group goal's - Look for win/win solutions

Source: Hudak et al., 2000 in Calhoun et al., 2002 p. 19

The American College of Medical Practice Executives (2003) noted five general competencies for medical practice executives: professionalism, leadership, communication skills, organisational and analytical skills, technical/professional knowledge and skills. Garman et al. (2004) developed a competency model for the health care sector to provide an approach that would yield a 360° feedback. Their framework included 26 competencies arranged in 7 clusters, which are charting the course, developing work relations, broad influence, structuring the work environment, inspiring commitment, communication, and self-management.

The National Center for Healthcare Leadership (NCHL) developed an approach which includes three main domains of competencies and 26 several competencies (Calhoun et al., 2004). The domains are transformation, execution, and people. Transformation includes competencies which envision, energize, and stimulate a change process that coalesces communities, patients, and professionals around the models of health care and wellness. Execution includes skills which translate vision and strategy into optimal organisational performance, and the people domain includes HRM, leadership, ethical, and self-management skills (National Center for Healthcare Leadership, 2006).

2.4 Nursing Management in the Past

In former times, a matrons was more an autocratic figure than a leader or a manager, in contemporary terms. Nightingale, who lived in the second half of the 19th century, called her nursing managers ‘Specials’. They were drawn from the higher social classes of the time and treated differently in terms of education and reward systems, like their counterpart leaders in the military (Woodham-Smith, cited in Girvin, 1998, pp. 42-43). Fraser-Gamble (cited in Girvin, 1998) claimed that the autocratic matron led nursing services clearly and unambiguously until the 1960s. The Griffiths Report (1983) and the Audit Commission Report (1991, cited in Girvin, 1998, p. 43) addressed the same issue by expressing concerns over the perceived lack of management accountability in the service in general.

Due to political and organisational changes and influences that have affected nurses and nursing management over the past 30 years, the role and responsibilities of nurse managers have changed enormously and the interest therein and subsequent publications thereon are now increasing. Since the 1980s there has been considerable debate and discussion about nurse management (Girvin, 1998, p. 40).

2.5 Nursing Management Today

Nurse managers play a critical role in the success of effective functioning in hospitals because they greatly influence nurses, who constitute the major staff group in hospitals. The pivotal role of nurse managers within the health care organisation and the need for managerial skills and competencies are emphasised in recent literature about nurse management (American Organisation of Nurse Executives, 1992, p. 36; Chase, 1994; Mathena, 2002; Oroviogicoechea, 1996; Roach & Smith, 1991, p. 9; Roach & Smith, 1993, p. 36; Sullivan & Decker, 1988).

However, Oroviogicoechea (1996) found a lack of clarity in the definition of nurse managers' functions, skills and characteristics because of methodical problems and the changing needs for those in the position. According to Oroviogicoechea (1996), there is theoretical consensus about the relevance of management skills and not just clinical skills.

Although some authors still defend the 'hands-on' work of the clinical nurse manager in the nursing service and its importance as a role model, most of the authors agree that this has less relevance, and tend to exclude it from the clinical nurse manager role. There is a general trend towards an emphasis on management of the service rather than the involvement of the clinical nurse manager in direct patient care. (Oroviogicoechea, 1996, p. 1274)

A lot of authors of literature about nurse managers emphasised the importance of Fayol's (1949) five managerial skills of planning, organising, staffing, leading, and controlling for nurse managers (Chase, 1994; Loo & Thorpe, 2004; Mathena, 2002; Oroviogicoechea, 1996; Roach & Smith, 1991, 1993).

Sherman (1980) found in his survey of 105 supervisory nurses that these nurse managers were real managers since they weekly performed managerial tasks like planning, organising, staffing, communicating, decision making, as well as controlling, and in Loo and Thorpe's (2004, p. 91) survey of Canadian nurse managers, traditional management roles such as planning, budgeting, and staffing were the most mentioned duties performed by the nurse managers. Roach and Smith (1991, 1993) claimed that most hospitals still tend to promote their 'best' nurses in terms of clinical competencies and knowledge into the position of nurse manager even though these skills are not enough to ensure that nurse managers will perform with optimal efficiency without background in managerial skills.

A large number of different competency models provide information which aids in understanding of the nurse manager's roles and functions (Lin et al., 2007).

The American Organisation of Nurse Executives (AONE) (1992, p. 36) provides a framework of six functions of a nurse manager: management of clinical nursing practice and patient care delivery, management of human, fiscal and other resources, development of personnel, compliance with regulatory and professional standards, strategic planning and fostering of interdisciplinary, collaborative relationships within unit(s) or areas(s). The American Nurse Association (American Nurse Credentialing Center, cited in Calhoun et al., 2002) mentions five areas of competence, these being in organization and structure, economics, human resources, ethics, and legal regulatory.

The Healthcare Leadership Alliance (HLA) developed a model which includes 300 competencies clustered in five areas. The areas are communication and relationship management, leadership, professionalism, knowledge of the health care environment, and business knowledge and skills (Healthcare Leadership Alliance, 2006). The HLA was established as a partnership of six leading health care leadership associations (American College of Healthcare Executives ACHE, American Organisation of Nurse Executives AONE, Healthcare Information and Management Systems Society HIMSS, American College of Physician Executives ACPE, American College of Medical Practice Executives ACMPE) in the United States.

Lin et al. (2007) surveyed 20 activities of nurse managers which derived from the model of the Healthcare Leadership Alliance and the National Center for Healthcare Leadership. Through factor analysis, they developed four factors, which they labelled human resource management, operation management, goal setting and planning, and material environment management (Lin et al., 2007).

In addition, the competency models, mentioned in this study under Health Care Management (2.3), also apply to nurse managers.

The majority of literature identified human resources management, leadership and decision making as the most important ones of managerial skills (Chase, 1994; Loo & Thorpe, 2004, p. 91; Mathena, 2002; Orovioigoicoechea, 1996; Timmreck, 2000, p. 59).

Chase (1994) surveyed 300 US nurse managers in 1994. She researched about 53 managerial competencies whether nurse managers perceived them necessary to accomplish their jobs

effectively or not. Chase's research identified human and leadership competencies as the most important competencies of nurse managers and effective communication and decision making as the most significant skills. Other important competencies were effective staffing strategies, counselling strategies, performance evaluation, team-building strategies, delegation, change process, conflict resolution, and problem solving (Chase, 1994, p. 63). Human and leadership skills, as well as decision making are the most relevant management skills for nurse managers, according to Oroviogicoechea (1996, p. 1279), and according to Mathena (2002), communication, negotiation, critical thinking, balance between work and home, and conflict management are the most important skills needed to be successful as a nurse manager. Beside competencies, Mathena found that time is a substantial barrier to their professional development and hands-on experience and mentorship are key factors to the development of skills (Mathena, 2002, p. 141).

Additional to the classical management functions three further functions are very important for nurse managers, which are delivery of health service, ethical issues, and self-management (Evans, 2007; Kelly-Heidenthal, 2003; Shaw, 2007; Sullivan & Decker, 1988).

Nurses are expected to have an understanding of the broader health and social system within which nursing functions. This is one of the most important attributes of a nurse leader and manager (Shaw, 2007, p. 13). There is probably no greater challenge for nursing than to ensure that it has the competencies needed in the 21st century for health care delivery (Kelly-Heidenthal, 2003, p. 53).

The practice of nursing is a moral enterprise based on a commitment to provide care. Throughout history, nurses have confronted ethical dilemmas, which is still the case (Sullivan & Decker, 1988, p. 121). Therefore, the requirement to handle legal and ethical issues is mentioned in much of the literature (Kelly-Heidenthal, 2003, pp. 446 & 464; Marquis & Huston, 2003, p.571; Tomey, 2004, p. 72; Yoder-Wise, 1999, p. 37). In the future, nurse managers will have to deal with questions like the allocation of resources, advanced technology, an aging population, and an increase in behaviour-related health problems. These issues magnify the importance of professional nurses in providing leadership that emphasises ethical behaviour in all practice settings (Kelly-Heidenthal, 2003, p. 475).

Even if most authors of nursing management-related literature do not mention self-management explicitly, most of the literature includes chapters about time management, self-development, and self-assessment (Kelly-Heidenthal, 2003; Sullivan & Decker, 1988; Tomey 2004), and Mathena's (2002, p. 140) survey included the category of self-development skills. In the hectic and fast moving environment of a nurse manager, self-management is critical to manage hospitals effectively.

Very little South African literature could be found about managerial skills of nurse managers. However, even if Jooste (2003b) did not survey managerial skills, she proposed that nurse managers should promote good interpersonal relationships with colleagues, subordinates and patients through attributes of openness, being inviting and empowering behaviour. Pillay (2007 & 2008) surveyed the skills which are important for public sector health management and evaluated managers' self-assessed proficiency in each of these skills. The questionnaire Pillay used listed 39 management competency items on a 5-Point Likert-type scale, which were derived from the literature, and several other stakeholders with an interest in hospital management (Pillay, 2007 & 2008). Pillay found, like the international authors of literature about nursing management, that human resources skills are the most important in health care and that clinical and specific health delivery skills are not as important for the effective management of health service organisations.

2.6 Leadership in Nursing Management

Leadership is defined as a process of influence in which the leader influences others toward goals achievement (Yukl, 1998). Influence is an instrument of leadership and means that leaders affect others, often by inspiring, enlivening, and engage others to participate (Kelly-Heidenthal, 2003, p. 67). A number of authors have developed leadership behaviour typologies for nursing management (Kelly-Heidenthal, 2003; Mathena, 2002; Sullivan & Decker, 1988) and leadership is very important in nursing management (Kelly-Heidenthal, 2003; Mathena, 2002; Sullivan & Decker, 1988; Tomey, 2004). Jooste (2004), who evaluated relevant literature, found that the role of nurse leaders in South Africa and the global health care environment is continuously moving to new dimensions. The role of leaders is to act as visionary leaders rather than to control the employees. They have to act as visionaries, who assist employees to plan, organise, lead and control their activities, to develop and to emphasize self-management and entrepreneurial behaviour (Jooste, 2004).

Not all leaders are managers. Bennis and Nanus (1985, p. 21) distinguished between managers and leaders, as managers are people who do things 'right' and leaders are people who do the right thing. However, as leading is identified as one of the management functions, in this research project, leadership belongs to the managerial function of leading.

2.7 Overview:

To identify the competency gaps of nurse managers, a strategic HRM and particular needs assessment is crucial since the needs analysis is the first and most important step in a systematic approach for HR development. Self-assessment is a common method for needs analysis.

Several competency models identify necessary managerial skills for nurse managers. It is well accepted in the literature about nursing management that the role and responsibilities of nurse managers have changed enormously during the last decades, from being an autocratic leader to being a real manager who is using the classical managerial functions frequently and needs an understanding of the broader health and social system. Nurse managers are true managers (Sherman, 1980) and they use the five managerial functions, planning, organising, leading, coordinating, and controlling frequently. Human resources and decision-making skills are the most important skills according to the international as well as available South African literature. Even if South African literature about nurse managers is rare, what does exist is consistent with international literature.

For this research project, 50 competencies were drawn from the competency models presented in the literature review. These competencies were clustered into seven categories.

The categories of managerial skills under observation in the survey were as follow:

- to deliver health care (using tools to standardise patient management, using epidemiological data, planning and implementation of health promotion programmes);
- to plan (creating a vision, planning further needs and developments, and developing organisational goals);
- to organising (budgeting, control of financial resources, using management information systems);
- to lead (managing teams, communicating organizational goals, motivating employees, managing conflicts, managing workforce diversity);

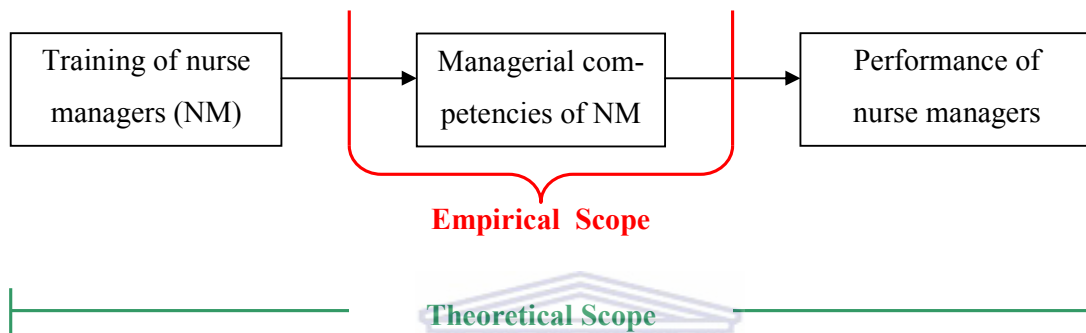
- to control (measuring organisational performance, assessing the quality of care, assessing patient satisfaction, providing feedback to patients and staff);
- to handle legal and ethical issues (identify ethical and legal issues in a health care setting, labour-related legislation, health-related legislation); and
- to manage oneself (learning from experiences, time management, acting independently, awareness of personal strengths and weaknesses, balancing work and life issues, self-development).



3 RESEARCH DESIGN AND METHODOLOGY

The empirical scope of the research differs from the theoretical scope as only the competencies and skills of nurse managers are surveyed and not the relationship between training of nurse managers and their competencies or between competencies of nurse managers and their performance.

Figure 2: Theoretical and Empirical Scope of the Research



This research leans toward a positivism approach as the existence of reality in itself is assumed and that the object (reality) which is observed is independent from the observer (Girod-Séville & Perret, 2001, p. 15). As Burrell and Morgan (cited in Girod-Séville & Perret, 2001, p. 15) put it, “whether or not we label and perceive these structures, the realists maintain, they still exist as empirical entities”. As a theory was developed and tested a deductive approach was used. The perspective of the study is deductive, which means that a sufficient size of sample must be selected, to generalise conclusions (Saunders et al., 2000, p. 91). 420 nurse managers, drawn from all over South Africa were surveyed by using a questionnaire. The research methodology was based on Pillay’s (2008) survey approach.

3.1 Problem Statement

The research problem aimed to identify what gaps in managerial skills of nurse managers in South Africa in private and public hospitals nurse managers perceive. What skills and competencies do nurse managers need to manage nurses effectively in South Africa in private and public hospitals? Are the required skills the same in both sectors? Do nurse managers in private hospitals have better management skills than nurse managers in public hospitals? If so, do they get additional training and what kind of training is given? What kind of management skills do nurse managers need to improve their job performance? What are the gaps in their education? Do nurse managers need further training in health care management?

3.2 Sample Size

The sample size for the survey was 420. The survey was limited to senior nurse managers working in hospitals that have a full complement of services or working in private hospitals. The sample included 215 public hospitals from six of nine provinces in South Africa as three provinces (Northern Cape, Free State, Mpumalanga) did not respond to the call to participate. The sample for the private hospitals was 205. Thus, the population was limited to 420 and the sample represented the majority of the population of senior nurse managers in public and private hospitals but did not include nurse managers working in clinics or other health facilities than hospitals nor those that were unemployed, had immigrated or had retired.

3.3 Research Instrument

Given that a positivism philosophy with a deductive approach was adopted and the purpose was to do a nation-wide survey, a self-administered postal or e-mail questionnaire was chosen to conduct the survey. This survey method is appropriate for this kind of research, as it allows for the collection of a large amount of data in a highly economical way and for easy comparison, is perceived as authoritative by people in general (Saunders et al., 2000, p. 94), questionnaires are non-intrusive means for gathering feedback, bias is minimised and completing questionnaires is relatively simple and straightforward (McClelland, 1994). Further, as it was not attempted to control or manipulate the variables, an ex post facto design was planned. The purpose of the study was quasi-descriptive and the time dimension was cross-sectional, therefore, a survey using a questionnaire for data collection was chosen (Cooper & Schindler, 2006, p. 135).

From the HR point of view, the survey was a needs assessment. According to McGehee and Thayer (1961), techniques for determining training needs include performance data, observation, tests, attitude surveys as well as interviews and questionnaires. Questionnaires are a common method to gather data to identify needs (Brown, 2002, p. 574; McGehee & Thayer, 1961; Moore & Dutton, 1978, p. 539; Roberts, 2006, p. 482). Performing incumbent self-assessments is a common method for identifying individuals in need of training (Ford & Noe, 1987; Tzeng, 2003; Wexley & Baldwin, 1986 cited in Guthrie & Schwoerer, 1994, p. 1).

Characteristics of the respondents, importance of reaching a particular person to respond, size of sample, types of questions and the number of questions are factors which indicate which kind of questionnaire is appropriate (Saunders et al., 1997, p. 246). As the sample size was large, the type of questions directly related to the nurse managers as well as being closed,

short and clear, the distribution nation-wide, and the length about 6 DIN A 4 pages, a self-administered questionnaire, distributed by mail or email, was favoured over an interviewer-administered questionnaire or a questionnaire distributed by delivery and collection.

3.4 Questionnaire

According to Saunders et al. (1997), to conduct a self-administered questionnaire, the responders have to be reached by post, the questionnaire should not be longer than 6-8 DIN A4 pages, closed questions should be used, simple questions should be asked and the topic has to be of interest to the respondents. These factors were applied while creating the questionnaire.

The questionnaire consisted of four parts.

The first part of the questionnaire evaluated nurse managers' attributes like gender, age, years in current position, and educational background as Saunders et al. (1997) recommended asking straightforward questions such as those concerning the attributes of the participants at the beginning. The measurement for all categories except the age and years in current position was a nominal scale as non-overlapping categories were offered from which to select. The age and years in current position were measured on an interval-level scale.

Table 6: Attributes of Nurse Managers and Measurement

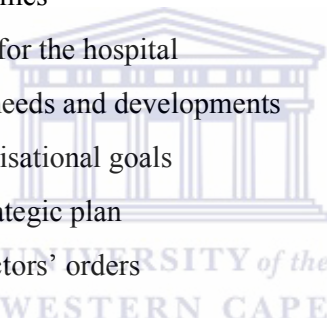
Variable	Measurement	Scale of measurement
Gender	Male; female	Nominal-level
Age	<35; 35-50, >50	Interval-level
Years in current position	<5; 5-10; >10	Interval-level
Primary formal qualification	Nursing, health related, commerce/management related, other	Nominal-level
Formal training in Health Care Management (HCM)	None, mentoring, certificate, diploma, degree, other	Nominal-level
Informal training in HCM	None, mentoring, in-service, other	Nominal-level
Sector	Public, private	Nominal-level

The second part of the questionnaire was a self-assessment of managerial skills by the nurse managers, and the third part evaluated the perceptions about necessary managerial skills of nurse managers. The seven categories of competencies and the several items to measure these competencies were as follow:

▪ **Deliver health care**

- Use of tools to standardise patient management
- Evaluating medical necessity and effectiveness of products or interventions
- Planning and implementation of health promotion programmes
- Use of epidemiological data
- Assessing the impact of health services delivery on health of population
- Delivery of primary preventive services
- Integration of nursing services with district health system
- Delivery of curative services
- Nursing standard and guideline setting

▪ **Planning**

- Planning programmes
 - Creating a vision for the hospital
 - Planning further needs and developments
 - Developing organisational goals
 - Preparing of a strategic plan
 - Implementing doctors' orders
- 
- The logo of the University of the Western Cape is a faint watermark in the background. It features a classical building with a pediment and columns, with the text 'UNIVERSITY of the WESTERN CAPE' below it.

▪ **Organising**

- Budgeting
- Controlling and allocating financial resources
- Using management information system
- Using health service technology
- Using HRM principles appropriately
- HR planning
- Managing personnel
- Planning nursing training
- Planning of resources
- Structure Health Service organisation

▪ **Leading**

- Managing teams
- Communicating organisational goals
- Motivating employees
- Managing conflicts
- Managing workforce diversity
- Labour relations
- Setting organisational culture

▪ **Controlling**

- Measuring of organisational performance
- Assessing the quality of care
- Assessing patient satisfaction
- Providing feedback to patients and staff
- Evaluating health service delivery programmes
- Evaluating financial performance
- Implementing health quality improvement systems
- Managing of nursing quality
- Managing of environmental safety and sanitation

▪ **Legal and ethical issues**

- Identification and analysis of an ethical issue in a health care setting
- Identification and analysis of an liability issue in a health care setting
- Labour-related legislation
- Health-related legislation

▪ **Self-management**

- Learning from experiences
- Time management
- Acting independently
- Awareness of personal strengths and weaknesses
- Balancing work and life issues
- Self-development.

The participants were asked to rate their proficiency in each skill and the level of importance that each of the skills has in their job. The ratings were an ordinal-level, based on a 5-point Likert-type scale, ranging from excellent to very poor in the self-assessment and from very important to not important in the assessing of importance. The survey questions and the management competency items derived from a review of the literature and were adapted from Pillay's (2007 & 2008) questionnaire.

Table 7: Measurement of Self-Assessment and Perceived Importance

Variable	Measurement Self-Assessment	Measurement Perceived Importance	Scale of Measurement
Delivery of health 8 items	5-Point Likert-type scale Very poor poor reasonable good excellent	5-Point Likert-type scale Not important somewhat important not sure important very important	Ordinal-level
Planning 6 items			
Organising 10 items			
Controlling 9 items			
Leading 7 items			
Legal and ethical issues 4 items			
Self-Management 6 items			

The last part of the questionnaire was an open question. Nurse managers were asked to provide general comments on the management capacity or the management training of nurse managers in South Africa.

3.5 Validity

Types to measure validity are external, internal, content, face, and construct validity (Trochim, 2008a). External validity addresses the question of whether generalisation is possible to the whole population and for other populations, locations or time periods (Garson, 2008). As the sample represents the majority of the population and as the response rate was appropriate, generalisation was possible. As the construct (managerial skills) was derived from international literature and as other countries face the same changes and challenges in the health care sector, and even more specifically in nursing, the results are not limited to South Africa (Lin et al., 2007).

Internal validity deals with the question of whether an alternative explanation for the findings can be excluded (Garson, 2008). Therefore, an intensive literature review was important to assess if other variables can influence or correlate with the dependent variable.

To ensure validity, it is necessary to determine which factors influence management abilities before determining if the factors can be of value. Content and face validity are given as the questionnaire is adopted from an established one used by Pillay (2008) to survey hospital managers. Additionally, a panel of persons such as lecturers from the department of community and health service, University of the Western Cape and the head of training of the Western Province Department of Health were asked to assess the factors.

Lastly, “construct validity refers to the degree to which inferences can legitimately be made from the operationalizations in your study to the theoretical constructs on which those operationalizations were based“ (Trochim, 2008b, para. 1). Convergent validity is assessed by the correlation among items which make up the scale or instruments measuring the competencies. This was attained by measuring Cronbach’s Alpha.

3.6 Reliability

Reliability must be proved for the research (Cooper & Schindler, 2006). The four measurements of reliability are test-retest reliability, parallel forms reliability, inter-observer reliability, and internal consistency reliability. As the test-retest is recommended for experimental or quasi-experimental surveys, inter-observer reliability for observations, and internal consistency reliability for statistical research (Trochim, 2008c), the latter was applied. Average inter-item correlation, average item-total correlation, the split-half reliability and the Cronbach’s Alpha are four measurements of internal consistency reliability (Trochim, 2008c). Cronbach’s Alpha was used to assess the degree to which instrument items were homogeneous, consistent and reflected the same underlying constructions (Cooper & Schindler, 2006, p. 322). The higher the score, the more reliable the generated scale is. The literature has indicated 0.7 to be an acceptable reliability coefficient (Bowling, 2002, p.149; Santos, 1999).

3.7 Pilot Test

A pilot test is recommended in the literature (Cooper & Schindler, 1996; Saunders, 1997) to reveal weaknesses and refine the questionnaire. In addition, reliability and validity can be assessed, and the test will provide answers about the time to complete the questionnaire, clarity of constructions, unclear or ambiguous questions, and the layout. According to Fink (1995, p. 108), at least 10 persons should take part, but it depends on the size of sample, time

and availability. The questionnaire used for this survey was adapted from Pillay's (2008) survey on hospital managers. Therewith, the practicability, like flow, layout, and length of the questionnaire, was provided. As the relevant competencies of hospital managers can differ from nurse managers, the questionnaire was assessed by lecturers from the department of community and health service, UWC and employees of the Western Province Department of Health. Some changes were done, like some competencies were added and some deleted.

3.8 Data Collection

The questionnaires were sent out by mail and email in September and October 2007. As most nurse managers in public hospitals do not have internet access, the questionnaires were sent out by mail with a pre-addressed post-return envelope to ensure a higher response rate. A letter explaining the purpose of the research and an instruction letter was attached. The questionnaire was emailed to the nurse managers working in private hospitals and to those who did not have access to internet, the questionnaire was sent by mail. The questionnaire and the instruction letter, which explained the purpose of the survey, were attached to the email. The attached questionnaire was in Word format to ensure that the nurse managers could open the document.

Two follow-up e-mails were sent to non-respondents after four and eight weeks to increase the response rate. Additionally, a questionnaire was sent out by mail after six weeks after the initial email was sent. Data collection was terminated eight weeks after the final mailing. Most of the email addresses of the nurse managers of the three biggest private hospital companies (Netcare, Medi-Clinic and Healthcare) were available online. These email addresses were used for the survey. A nurse manager of the Medi-Clinic sent an email to say that she was not allowed to answer the questionnaire without permission of the head of the organisation. Therefore, permission was asked for from the Director Nursing of the Medi-Clinic. The permission given by the director enhanced the response rate from the Medi-Clinic. Netcare was also emailed twice and called once to ask for permission explicitly, but no feedback was received.

It is also assumed, that some of the mailed nurse managers did not get the questionnaire or the answered questionnaire did not reach the University of the Western Cape as the postal service is not very reliable.

3.9 Data Analysis

The data analysis was quantitative. The data were analysed using the SPSS software package to handle the large data set and to minimise errors.

A data coding was necessary. As most questions were closed-ended, the codification was relatively easy. A pre-code instrument was used to make the intermediate step of completing a data entry-coding sheet unnecessary.

Univariate analysis was used for analysing a single variable to describe it and bivariate analysis was used to analyse two variables simultaneously to assess the empirical relationship between them.

A Chi-square test was done to assess whether or not a relationship exists between two categorical variables.

Cronbach's Alpha was used to estimate the internal consistency or homogeneity of measure composed of several items or subparts and thereby to show reliability.

In addition, Analysis of Variance (ANOVA) was used to test the effect of one or more treatments on different groups by comparing the variability between groups to the variability within groups. The analysis determines whether differences exist between populations' mean (Saunders et al., 2000, p. 362).

Finally, a Paired t-test was done to compare the second (self-assessment) and third (perceived importance of competencies) part of the questionnaire.

3.9.1 Qualitative Data Analysis

The analysis of the open question included data editing to detect errors and omissions, correct them if possible, and certify that maximum data quality standards were achieved (Cooper & Schindler, 2006). Due to the problematic nature of qualitative analysis there is no standardised approach to the analysis of qualitative data (Saunders et al., 2000). Different strategies and approaches are possible.

The open questions were categorised and coded. The categories within a single variable should be "appropriate to the research problem and purpose, exhaustive, mutually exclusive, and derived from one classification principle" (Cooper & Schindler, 2006). This recommendation was applied during the qualitative analysis.

3.10 Limitations of the Study

The nurse managers were asked to evaluate their own skills and competencies on a self-assessment instrument. This is subjective and without external validation as no additional

observations were done to validate the self-assessment of the nurse managers. Some responses may be biased or some people unable to assess their own strengths and weaknesses. However, it is assumed that the participants' views are meaningful as the usefulness of training needs' self-assessments has been suggested in the literature (Ford & Noe, 1987; Tzeng, 2003). In addition, the results are compared with those reported in the literature as well as with current discussions and opinions of experts.

The competencies list may also not fully reflect the scope of nurse managers in South Africa but is based on those listed in the literature (American Organization of Nurse Executives, 1992; Everson-Bates, 1994; Mathena, 2002; Oroviogicoechea, 1996; Roach & Smith, 1991; Roach & Smith, 1993; Sullivan & Decker, 1988), proven questionnaires (Chase, 1994; Pillay, 2008) and the judgement of experts like lecturers from the department of community and health service, UWC and employees of the Western Province Department of Health.

3.11 Ethics Statement

The goal of applying a code of ethics in research is to ensure that no one is harmed or suffers adverse consequences from research activities (Cooper & Schindler, 2006, p. 118).

Participants' rights and welfare and researchers' obligations are central to the research process. Specific ethical issues are privacy, informed consent and avoidance of deception (Cooper & Schindler, 2006). To protect participants, the researcher may use anonymity and confidentiality (Tati, 2007, p. 78).

The survey was done by issuing questionnaires to participants, who were requested to respond. An explanation of the research project was added at the beginning of the questionnaire. The explanation informed the participants about the topic and the purpose of the research project as well as about benefits, rights, risks and dangers that might result from their participation.

To ensure the rights and welfare of all surveyed persons, anonymity and confidentiality were assured for the respondents. The questionnaire did not include questions about the name of the participant or the location of the hospital. No names or means of identifying participants were acquired. The anonymous questionnaire thus ensured confidentiality. Code numbers linking identifiers to the information, passwords to control access to data and automatic monitoring of the use of files were used.

4 RESULTS

4.1 Analysis of the Response Rate

In all, 175 of 420 mailed questionnaires were returned, which is a total response rate of 41,67%. A slight majority, 94 (53,7 %), were from the public sector, whereas 77 (44%) were from the private sector and 4 (2,3%) belonged to both sectors.

Out of 215 questionnaires from the public sector, were 94 returned, which represent 43,72% of the public sector and 77 (37,56%) of 205 questionnaires were returned from the private sector.

Some of the questionnaires were not completed fully. Therefore, the frequency differs for some questions. Four respondents indicated that they are working in public-private hospitals. These respondents are only regarded in the overall analyses and not considered in the public or private sector analysis as they could not be assigned to one sector.

4.2 Analysis of Respondents' Characteristics

As shown in Table 8, the majority of respondents were female. Out of 174 respondents, 165 (94,8%) were female and 9 (5,2%) were male. More than half were over the age of 50 years and 42,4% were between 35 and 50 years.

Of the total, 39,7% have been less than 5 years, 33,3% between 5 and 10 years and 27% over 10 years in their current position.

Almost three-quarters (73,1%) of the respondents had nursing as their primary formal qualification and 25,7% respondents reported having more than one qualification. All respondents reported having more than one qualification had nursing and an additional qualification as primary qualification. Two respondents did not have nursing as their primary formal qualification.

The majority of respondents reported having a degree (30,3%) or a diploma (28,6%) as formal training in health care management (HCM) and 16,6% had more than one qualification, whereas 12% had no formal certified training.

Almost half of all respondents (45,1%) had in-service training, such as workshops or seminars, as informal training in HCM, and more than one third (36,6%) reported having more than one course in informal training, whereas 10,3% respondents reported having no informal training.

The majority of the respondents, 63,4%, intended attending further training, whereas 36,6% did not want to attend training.

4.2.1 Analysis of Respondents' Characteristics for the Public Sectors

More sector-specific analysis, as shown in Table 8, revealed that 4,3% male and 95,6% female respondents answered from the public sector. None was under the age of 35, 37% were between 35 and 50 years old and the majority, 63%, was over the age of 50. Over one third (39,8 %) had been under 5 years in their current position, another third (34,4%) had been between 5 and 10 years in their current position and 25,8% had been over 10 years in their current position.

Relating to primary formal qualifications, one respondent did have other qualification than nursing.

Over one third, 36,2%, had a degree, 28,7% had a diploma, and 19,1% had more than one qualification in formal training in HCM.

More than half, 53,2%, had in-service training, followed by 28,7%, who had more than one qualification, and 11,7% who had no informal training in HCM. Almost 70% wanted to attend training and the rest, 30,9%, did not.

4.2.2 Analysis of Respondents' Characteristics for the Private Sector

In the private sector, 6,5% respondents were male and 93,5% female. The minority, 7,9%, were under the age of 35 years, half were between 35 and 50 years old, and 42,1% were over the age of 50. Furthermore, 40,3% had been under 5 years in their current position, almost a third, 32,5%, had been between 5 and 10 years in their current position and 27,3% had been over 10 years in their current position.

Relating to primary formal qualifications, one respondent had another qualification than nursing, 19,5% had no formal/certified training in HCM, 28,6% had a diploma, and 24,7% had a degree. Almost half, 46,8%, had more than one qualification in informal training in HCM, 35,1% had in-service training, and 9,1% of the respondents had no informal training. Slightly more than half, 55,8%, wanted to attend training.

Table 8: Respondents' Characteristics (count and valid percentage)

	All (N=175)		Public (N=94)		Private (N=77)	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
Response Rate	175	41,67	94	43,72	77	37,56
Gender						
male	9	5,2	4	4,3	5	6,5
female	165	94,8	89	95,7	72	93,5
Total	174	100	93	100	77	100
Age						
<35	6	3,5	0	0	6	7,9
35-50	73	42,4	34	37	38	50
>50	93	54,1	58	63	32	42,1
Total	172	100	92	100	76	100
Number of years in current position						
<5	69	39,7	37	39,8	31	40,3
5-10	58	33,3	32	34,4	25	32,5
>10	47	27	24	25,8	21	27,3
Total	174	100	93	100	77	100
Primary Formal Qualification						
nursing	128	73,1	73	77,7	53	68,8
other	2	0,6	1	1,1	1	1,3
more than one qualification	45	25,7	20	21,3	23	29,9
Total	175	100	94	100	77	100
Formal/certified training in HCM						
none	21	12	5	5,3	15	19,5
certificate	15	8,6	7	7,4	8	10,4
diploma	50	28,6	27	28,7	22	28,6
degree	53	30,3	34	36,2	19	24,7
other	7	4	3	3,2	4	5,2
more than one qualification	29	16,6	18	19,1	9	11,7
Total	175	100	94	100	77	100
Informal training in HCM						
none	18	10,3	11	11,7	7	9,1
mentoring	6	3,4	2	2,1	3	3,9
non certified courses	6	3,4	3	3,2	3	3,9
in-service training (workshops, seminars)	79	45,1	50	53,2	27	35,1
other	2	1,1	1	1,1	1	1,3
more than one qualification	64	36,6	27	28,7	36	46,8
Total	175	100	94	100	77	100
Intention to attend training						
yes	111	63,4	65	69,1	43	55,8
no	64	36,6	29	30,9	34	44,2
Total	175	100	94	100	77	100

4.3 Bivariate Analysis

A Chi-square test was done to assess whether or not a statistically significant association exists between two categorical variables.

A significant association was found between age and gender, years in position and age, formal/certified training in HCM and age, informal training in HCM and age, and sector and age.

Table 9: Significant Associations between Categorical Variables – Chi-square test

	Gender	Age	Years in Position	Primary Formal Qualification	Formal/certified training in HCM	Informal training in HCM	Intention to attend training	Sector
Gender	-----							
Age	10.319; 0.006	-----						
Years in Position	3.233; 0.199	19.303; 0.001	-----					
Primary Formal Qualification	1.236; 0.744	8.571; 0.199	10.259; 0.114	-----				
Formal/certified training in HCM	5.607; 0.346	19.473; 0.035	7.862; 0.642	10.433; 0.792	-----			
Informal training in HCM	0.921; 0.969	20.367; 0.026	10.902; 0.365	18.023; 0.261	35.901; 0.073	-----		
Intention to attend training	0.865; 0.352	4.635; 0.099	1.418; 0.492	3.963; 0.265	5.653; 0.341	1.715; 0.887	-----	
Sector	0.636; 0.728	13.247; 0.010	1.192; 0.879	5.040; 0.539	16.304; 0.091	13.927; 0.176	3.466; 0.177	-----

More males were under 35 years old than expected ($p=0.006$). It was expected that 0,3 male respondents would be under 35 years, 3,8 between 35 and 50 years, and 4,9 over 50 years. In fact, 2 male respondents were under 35 years, 4 between 35 and 50 years, and 3 over 50 years.

As shown in Table 10, nurse managers between 35-50 years are more likely to be under 5 years in their current position than older nurse managers ($p=0.001$).

Only 10 respondents between 35-50 years were 10 years or longer in their current position. Nurse managers over 50 years were more likely to have more than 10 years experience in their current position.

The Chi-square test showed that there was a significant ($p=0.035$) difference between age and formal training in HCM. As shown in Table 10, instead of 0,5, it was found that 2 nurse managers under 35 years had a certificate, instead of an expected 1,7, it was found that none had a diploma.

Higher differences existed between respondents between the age of 35 and 50 years. Instead of 8,9, it was found that 12 people had no formal training, instead of 5,9, it was found that 7 had a certificate, instead of 22,1, it was found that 17 had a degree, instead of 3, it was found that 5 had other training and instead of 12,3, it was found that 11 had more than one qualification. Although 11,4 people over 50 years were expected to have no formal training, only 9 had none. Instead of 7,6, only 5 had a certificate, instead of 28,1, it was found that 34 had a degree, and instead of 3,8, it was found that 1 person had other training,

Significant differences ($p=0.026$) between age and informal training in HCM are shown in Table 10. Instead of an expected 2,7 none had in-service training, and 6 instead of an expected 2,2 had more than one qualification in the age group under 35.

For people between 35 and 50, it was found that 13 instead of 7,2 had no training, 29 instead of 33 had in-service training and 24 instead of 27,2 had more than one qualification.

The last category, over 50 years old, also shows significant differences: 4 instead of an expected 9,2 had no informal training in HCM, and 49 instead of an expected 42,2 had in-service training.

The last significance ($p=0.010$) was found between sector and age as in the public sector the nurse managers were older than those in the private sector. No nurse manager from the public sector were younger than 35 years, fewer than expected between were 35 and 50 years, whereas more than expected were older than 50 years. In the private sector, the reverse was true. More nurse managers under 35 years and between 35 and 50 years than expected were identified but fewer of those over 50 years than expected.

Table 10: Extract from Chi Square Test - Public and Private Sector

		Age				
		<35	35-50	>50	Total	
Gender	male	Count	2	4	3	9
	Expected Count	0,3	3,8	4,9	9	

		Number of years in current position				
		<5	5-10	>10	Total	
Age	<35	Count	3	3	0	6
	Expected Count	2,4	2	1,6	6	
	35-50	Count	39	24	10	73
	Expected Count	28,9	24,2	19,9	73	
	>50	Count	26	30	37	93
	Expected Count	36,8	30,8	25,4	93	

		Sector			Total	
		public sector	private sector	both sectors		
Age	<35	Count	0	6	0	6
	Expected Count	3,2	2,7	0,1	6	
	35-50	Count	34	38	1	73
	Expected Count	39	32,3	1,7	73	
	>50	Count	58	32	3	93
	Expected Count	49,7	41,1	2,2	93	

		Formal/certified training in Health Care Management						Total	
		none	certificate	diploma	degree	other	more than one qualification		
Age	<35	Count	0	2	0	1	1	2	6
	Expected Count	0,7	0,5	1,7	1,8	0,2	1	6	
	35-50	Count	12	7	21	17	5	11	73
	Expected Count	8,9	5,9	20,8	22,1	3	12,3	73	
	>50	Count	9	5	28	34	1	16	93
	Expected Count	11,4	7,6	26,5	28,1	3,8	15,7	93	

		Informal training in Health Care Management						
		none	mentoring	non certified courses	in-service training	other	more than one qualification	Total
Age <35	Count	0	0	0	0	0	6	6
	Expected Count	0,6	0,2	0,2	2,7	0,1	2,2	6
35-50	Count	13	3	3	29	1	24	73
	Expected Count	7,2	2,1	2,5	33,1	0,8	27,2	73
>50	Count	4	2	3	49	1	34	93
	Expected Count	9,2	2,7	3,2	42,2	1,1	34,6	93

4.3.1 Bivariate Analysis of the Public Sector

As shown in Table 11, three significant associations were found between two categorical variables in the public sector. These were between gender and age, years in position and age, and formal training in HCM and gender.

Table 11: Significant Associations between Categorical Variable – Chi-square test in the Public Sector

	Gender	Age	Years in Position	Primary Formal Qualification	Formal/certified training in HCM	Informal training in HCM	Intention to attend training
Gender	-----						
Age	7.134; 0.008	-----					
Years in Position	2.489; 0.288	6.453; 0.04	-----				
Primary Formal Qualification	0.072; 0.965	2.156; 0.340	7.058; 0.133	-----			
Formal/certified training in HCM	11.789; 0.038	2.729; 0.742	4.949; 0.895	9.168; 0.516	-----		
Informal training in HCM	1.182; 0.947	10.938; 0.053	8.026; 0.626	17.241; 0.069	27.828; 0.316	-----	
Intention to attend training	1.894; 0.169	1.215; 0.270	0.744; 0.689	0.908; 0.635	0.899; 0.970	6.180; 0.289	-----

No male nurse managers over the age of 50 years responded. All male nurse managers were between 35-50 years old. In contrast, more female nurse managers were over 50 years old than expected.

Nurse managers with more than 10 years experience in their current positions are likely to be over 50 years old. Nurse managers who are younger than 50 are more likely to be in their position less than 10 years.

The last significant association occurred between formal training and gender. No male nurse managers had a degree, whereas a number of female nurse managers had a degree in formal training in HCM.

4.3.2 Bivariate Analysis of the Private Sector

Four significant associations between two categorical variables in the private sector were found. These were between gender and age, years in current position and age, formal training in HCM and age, and intention to attend training and informal training in HCM.

Table 12: Significant Associations between Categorical Variables – Chi-square test in the Private Sector

	Gender	Age	Years in Position	Primary Formal Qualification	Formal/certified training in HCM	Informal training in HCM	Intention to attend training
Gender	-----						
Age	10.071; 0.007	-----					
Years in Position	2.571; 0.276	12.801; 0.012	-----				
Primary Formal Qualification	2.421; 0.298	7.105; 0.130	3.926; 0.416	-----			
Formal/certified training in HCM	4.816; 0.439	18.690; 0.044	6.510; 0.771	6.183; 0.800	-----		
Informal training in HCM	1.733; 0.885	11.600; 0.313	14.542; 0.150	5.107; 0.884	28.106; 0.303	-----	
Intention to attend training	0.037; 0.847	5.858; 0.053	0.625; 0.732	5.453; 0.65	7.759; 0.170	15.032; 0.010	-----

4.4 Self-Assessment

Nine items described delivery of health care, six planning, ten organising, seven leading, nine controlling, four legal and ethical issues, and six self-management.

The analysis of the self-assessment in Table 13 showed that nurse managers felt most competent in self-management (4,155), planning (4,056), and leading (4,005) and less competent in controlling (3,981), organising (3,805), legal and ethical issues (3,692) and their ability to deliver health care (3,686).

Cronbach's Alpha was used to assess the degree to which instrument items were homogeneous and reflected the same underlying constructions (Cooper & Schindler, 2006, p. 322). The higher the score, the more reliable is the generated scale. The literature has indicated 0.7 to be an acceptable reliability coefficient (Bowling, 2002, p. 149; Santos, 1999). As shown in Table 13, all category levels were higher than 0,7 and could therefore be accepted as reliable.

Table 13: Self-Assessment and Reliability of Management Competency

	N	Cronbach's Alpha	Number of Items	Mean total score
Delivery of Health Care	172	0,849	9	3,686
Planning	172	0,847	6	4,055
Organising	173	0,929	10	3,804
Leading	172	0,904	7	4,006
Control	174	0,897	9	3,979
Legal and Ethical Issues	174	0,79	4	3,695
Self-management	174	0,806	6	4,155

The analysis of variance (ANOVA) was used to determine if differences exist between population means.

As shown in Table 14, males assessed themselves significant better in the controlling category. The mean for males was 4,472 whereas the mean for females was 3,958.

Respondents with more than one qualification assessed themselves significantly better in planning (4,278) than other respondents (4,054).

Respondents with other informal training in health care management assessed themselves significantly better in organising (4,3) than other respondents (3,804). However, only two respondents had other training in HCM.

Nurse managers with more than one informal training qualification in HCM assessed their skills in legal and ethical issues significantly higher (3,867) than did the other respondents (3,694).

Table 14: Analysis of Variables – Self-Assessment in the Public and Private Sectors

Competency	Characteristic	N	Mean	F	Sig.
Mean Controlling	Gender				
	male	8	4,472	6,664	0,011
	female	165	3,958		
	Total	173	3,981		
Mean Planning	Informal training in HCM				
	none	18	3,713	3,359	0,006
	mentoring	6	3,917		
	non certified courses	6	4,028		
	in-service training (workshops, seminars, etc)	79	3,970		
	other	2	4,167		
	more than one qualification	61	4,276		
	Total	172	4,054		
Mean Organising	Informal training in HCM				
	none	18	3,475	2,806	0,018
	mentoring	6	3,350		
	non certified courses	6	3,600		
	in-service training (workshops, seminars, etc)	78	3,771		
	other	2	4,300		
	more than one qualification	63	3,986		
	Total	173	3,804		
Mean Legal and Ethical Issues	Informal training in HCM				
	none	18	3,375	2,475	0,034
	mentoring	6	3,458		
	non certified courses	6	3,542		
	in-service training (workshops, seminars, etc)	78	3,657		
	other	2	3,625		
	more than one qualification	64	3,867		
	Total	174	3,694		

The respondents from the private sector assessed their ability in the categories of planning, organising, leading, controlling, self-management, and legal and ethical issues as being significantly better than their colleagues from the public sector. Only their self-assessment of the ability to deliver health care did not differ significantly from those of the public sector.

Table 15: Analysis of Variables - Bivariate Relationship between Sector and Management Competency

Competency	Sector	N	Mean	F	Sig.
Mean Delivery of Health Care	public sector	93	3,655	0,637	0,530
	private sector	75	3,711		
	both sectors	4	3,944		
	Total	172	3,686		
Mean Planning	public sector	93	3,884	8,783	0,000
	private sector	75	4,260		
	both sectors	4	4,167		
	Total	172	4,054		
Mean Organising	public sector	93	3,623	7,877	0,001
	private sector	76	4,022		
	both sectors	4	3,875		
	Total	173	3,804		
Mean Leading	public sector	91	3,768	18,366	0,000
	private sector	77	4,293		
	both sectors	4	3,857		
	Total	172	4,005		
Mean Controlling	public sector	93	3,783	15,287	0,000
	private sector	77	4,222		
	both sectors	4	3,861		
	Total	174	3,979		
Mean Legal and Ethical Issues	public sector	93	3,535	8,733	0,000
	private sector	77	3,899		
	both sectors	4	3,438		
	Total	174	3,694		
Mean Self-management	public sector	93	4,048	4,002	0,020
	private sector	77	4,286		
	both sectors	4	4,125		
	Total	174	4,155		

4.4.1 Self-Assessment of the Public Sector

Nurse managers from the public sector felt most competent in self-management (4,048), followed by planning (3,883) and controlling (3,782), leading (3,769), and delivering of health care (3,654). Organising (3,624) ranked sixth, followed by legal and ethical issues (3,535). As shown in Table 16, the Cronbach's Alpha for all scales are acceptable level of reliability with an average of 0,862.

Table 16: Self-Assessment and Reliability of Management Competency of the Public Sector

	N	Cronbach's Alpha	N of Items	Mean total score
Delivery of Health Care	93	0,874	9	3,654
Planning	93	0,848	6	3,883
Organising	93	0,925	10	3,624
Leading	91	0,883	7	3,769
Control	93	0,889	9	3,782
Legal and Ethical Issues	93	0,808	4	3,535
Self-management	93	0,813	6	4,048

Analysis of Variance (ANOVA) revealed significant differences in the categories of organising, leading, and self-management between nurse managers with other primary formal qualifications (4) and nurse managers with nursing (3,716) or more than one primary formal qualification (3,27). However, only one nurse manager had other primary formal qualifications.

In addition, ANOVA revealed differences in the categories of organising and controlling between the nurse managers with other qualification in informal training in HCM and the other nurse managers. Only one nurse manager had received other informal training in HCM.

4.4.2 Self-Assessment of the Private Sector

Private sector nurse managers assessed their skills in a different range than the public sector, ranking leading (4,297), self-management (4,285), and planning (4,260) on a high level. Thereafter, controlling (4,222), organising (4,022), legal and ethical issues (3,9), and delivering of health care (3,711) followed. With an average of 0,829, Cronbach's Alpha for all scales was an acceptable level of reliability.

Table 17: Self-Assessment and Reliability of Management Competency of the Private Sector

	N	Cronbach's Alpha	N of Items	Mean of total score
Delivery of Health Care	75	0,837	9	3,711
Planning	75	0,809	6	4,260
Organising	76	0,923	10	4,022
Leading	76	0,885	7	4,297
Controlling	77	0,866	9	4,222
Legal and Ethical Issues	77	0,721	4	3,900
Self-management	77	0,762	6	4,285

As shown in Table 18, ANOVA identified significant differences in the control category as nurse managers over the age of 50 assessed their competence as being significantly higher than did younger nurse managers. Significant differences were also identified in legal and ethical issues and planning for nurse managers with more than one primary formal qualification. They assessed their skills higher than the others did in both categories. Lastly, significant differences were revealed in the category of planning, as nurse managers with non certified informal training in HCM assessed their competency in planning as being higher than did the other nurse managers.

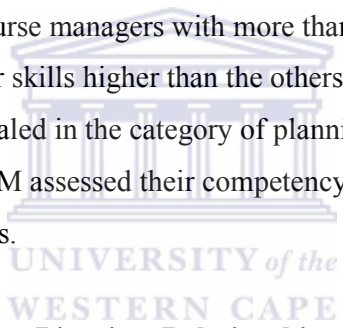


Table 18: Analysis of Variance - Bivariate Relationships in the Private Sector

Competency	Characteristic	N	Mean	F	Sig.
Mean Control	Age				
	<35	6	4,28	3,394	0,039
	35-50	38	4,08		
	>50	32	4,36		
	Total	76	4,21		
Mean Legal & Ethical Issues	Primary formal qualification				
	nursing	53	3,81	3,337	0,041
	commerce/management related	1	3,50		
	more than one qualification	23	4,13		
	Total	77	3,90		

Mean Planning	Primary formal qualification				
	nursing	52	4,16	3,486	0,036
	commerce/management related	1	4,17		
	more than one qualification	22	4,51		
Total	75	4,26			
Mean Planning	Informal training in HCM				
	none	7	4,17	3,461	0,008
	mentoring	3	3,83		
	non certified courses	3	4,50		
	in-service training (workshops, seminars, etc)	27	4,02		
	other	1	3,83		
	more than one qualification	34	4,50		
Total	75	4,26			

4.5 Importance of Competencies as Perceived by all Nurse Managers

The nurse managers estimated all seven managerial competencies as important. Controlling (4,60304) was ranked as the most important competency, followed by leading (4,57143), self-management (4,5436), planning (4,52875), organising (4,50917), legal and ethical issues (4,50581), and delivery of health care (4,3451), as shown in Table 19.

Reliability was ensured, as Cronbach's Alpha was higher than 0,7 for all category levels, with an average of 0,875.

Table 19: Importance and Reliability of Management Competency

	N	Cronbach's Alpha	N of Items	Mean total score
Delivery of Health Care	171	0,889	9	4,347
Planning	172	0,878	6	4,530
Organising	170	0,923	10	4,530
Leading	172	0,886	7	4,573
Control	173	0,93	9	4,606
Legal and Ethical Issues	173	0,801	4	4,505
Self-Management	173	0,82	6	4,543

Again, ANOVA was used to determine if differences exist between populations' means.

There was only one significant difference, which was in the estimation of the importance of the delivery of health care. Respondents from the public sector significantly estimated the

ability to deliver health care services as more important (4,5116) than respondents of the private sector did (4,15936).

Table 20: Analysis of Variance - Bivariate Relationship Between Sectors and Management Competency Delivery of Health Care

	Sector	N	Mean	F	Sig.
Mean Delivery of Health Care	public sector	91	4,5116	7,593	0,001
	private sector	76	4,15936		
	both sectors	4	4,16667		
	Total	171	4,34698		

4.5.1 Importance of Competencies as Perceived by the Public Sector

Public sector nurse managers ranked controlling (4,644) as the most important competency for nurse managers, leading (4,62) as second, organising (4,601) as third, and self-management as fourth (4,58). Thereafter planning (4,563), legal and ethical issues (4,55), and delivery of health care (4,511) followed. Reliability is ensured with an average rate of Cronbach's Alpha of 0,8546.

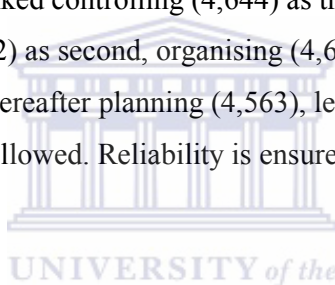


Table 21: Importance of Competencies as Perceived by the Public Sector

	N	Cronbach's Alpha	N of Items	Mean of total score
Delivery of Health Care	91	0,892	9	4,511
Planning	92	0,876	6	4,563
Organising	90	0,872	10	4,601
Leading	91	0,891	7	4,624
Control	92	0,930	9	4,644
Legal and Ethical Issues	92	0,784	4	4,550
Self-Management	92	0,737	6	4,580

No significant differences between categories were revealed using ANOVA.

4.5.2 Importance of Competencies as Perceived by the Private Sector

Nurse managers from the private sector, like their counterparts from the public sector, also assessed controlling (4,58) as the most important competency, followed by leading (4,532), self-management (4,52), and planning (4,505). However, they ranked legal and ethical issues

(4,47) as fifth, organising (4,466) sixth, and delivery of health care (4,158) last. As shown in Table 22, reliability was ensured.

Table 22: Importance of Competencies as Perceived by the Private Sector

	N	Cronbach's Alpha	N of Items	Mean of total score
Delivery of Health Care	76	0,873	9	4,16
Planning	76	0,874	6	4,51
Organising	76	0,944	10	4,47
Leading	75	0,874	7	4,53
Control	77	0,926	9	4,58
Legal and Ethical Issues	77	0,81	4	4,47
Self-management	77	0,863	6	4,52

As in the public sector, no significant differences between categories were found through ANOVA.

4.6 The Competency Gap

Mean differences between perceived importance and self-assessed competencies for both sectors are presented in Table 23. A Paired t-test was used to measure the significance of the differences. All were statistically significant ($p=0,00$). The greatest differences between importance rating and self-assessed competencies were found for legal and ethical issues (-0,809), followed by organising (-0,70), delivery of health care (-0,655), controlling (-0,625), leading (-0,565), planning (-0,479), and self-management (-0,387).

Table 23: Differences Between Self-Assessment and Perceived Importance in the Public and Private Sector

Factors	Mean			N	Sig. (2-tailed)
	Self-Assessment	Importance	Differences		
Delivery of Health Care	3,69	4,35	-0,66	169	0,000
Planning	4,06	4,53	-0,48	169	0,000
Organising	3,81	4,51	-0,70	169	0,000
Leading	4,01	4,57	-0,57	170	0,000
Controlling	3,98	4,61	-0,63	173	0,000
Legal and Ethical Issues	3,70	4,50	-0,81	173	0,000
Self-management	4,16	4,54	-0,39	173	0,000

4.6.1 Competency Gap in the Public Sector

The competency gap in the public sector was higher in all categories than the gap of both sectors, meaning, the difference between the self-assessment and the perceived importance of competencies was higher in public sector than in the private sector. For example, the difference for planning was -0,69 in the public sector and only -0,24 in the private sector. The competency gap was highest for legal and ethical issues (-1,0135) followed by organising (-0,977), controlling (-0,862), delivering of health care (-0,857), and leading (-0,856). Planning (-0,68) and self-management (-0,532) showed the lowest gap in competencies.

Table 24: Differences Between Self-Assessment and Perceived Importance in the Public Sector

Factors	Mean			N	Sig. (2-tailed)
	Self-Assessment	Importance	Differences		
Delivery of Health Care	3,66	4,51	-0,84	90	0,000
Planning	3,88	4,57	-0,69	91	0,000
Organising	3,63	4,58	-0,94	90	0,000
Leading	3,77	4,62	-0,85	90	0,000
Controlling	3,78	4,64	-0,86	92	0,000
Legal and Ethical Issues	3,54	4,55	-1,01	92	0,000
Self-management	4,05	4,58	-0,53	92	0,000

4.6.2 Competency Gap in the Private Sector

Nurse managers from the private sector had a significantly lower competency gap than that nurse managers of the public sector. As shown in Table 25, the gap was also highest for legal and ethical issues (-0,568) but delivery of health care (-0,448) was placed second. The gap in organising (-0,444) was ranked third, followed by controlling (-0,357), planning (-0,245), leading (-0,236), and self-managing (-0,232).

Table 25: Differences Between Self-Assessment and Perceived Importance in the Private Sector

Factors	Mean			N	Sig. (2-tailed)
	Self-Assessment	Importance	Differences		
Delivery of Health Care	3,71	4,16	-0,45	75	0,000
Planning	4,26	4,50	-0,24	74	0,003
Organising	4,01	4,44	-0,43	75	0,000
Leading	4,30	4,54	-0,24	76	0,008
Controlling	4,22	4,58	-0,36	77	0,000
Legal and Ethical Issues	3,90	4,47	-0,57	77	0,000
Self-Management	4,29	4,52	-0,23	77	0,003

4.7 Qualitative Analysis

Several keywords could be identified in the qualitative analysis. Keywords are words or phrases, which were mentioned by several respondents. Over 10 respondents noted that continuous training is necessary for nurse managers. Rapid changes in the health care environment were identified as reasons for continuous training. One statement was: “Refresher courses or training for qualified nurse managers are necessary as the sector changes continuously”. Specifically, mentoring and a longer period of vocational adjustment were named to improve competencies of nurse managers. Lack of time, resources, and support was mentioned as a constraint, other than training lack, which hinders nurse managers’ performance. Altogether, 17 nurse managers mentioned that training should include more advice on finance and budgeting. In addition, nurse managers mentioned human resources/labour relations (10), change (6), research (5) and IT (4) should receive more attention during training. Furthermore, 13 nurse managers wrote that training was needed in general management.

5 DISCUSSION AND CONCLUSION

5.1 Response Rate

The response rate is reasonable for a self-administered, nationwide survey. Response rates of self-administered questionnaires in nursing management differ highly. Chase (1994) achieved a response rate of 70,3%, Mathena (2002) of 60%, Kirk (1987) of 42%, and Roach and Smith (1993) (who used two questionnaires in their survey) of 40% and 48%. None of these surveys was nationwide and each was done in the United States, and the participants in the surveys were members either of the American Organization of Nurse Executives or the Florida Organization for Nurse Executives. Mathena (2002) limited her survey to five Harvard-affiliated hospitals located in the Boston area. The response rate of a nationwide survey done by Lin et al. (2007) in Taiwan, surveying competencies of three levels of nurse managers, was 33.9%. As Owen and Jones (cited in Saunders et al., 2000) stated, a response rate of 30% for postal surveys is reasonable the received response rate is regarded as sufficient.

The higher response rate of the public sector, when compared with the private sector, was also reflected in the survey done by Pillay (2008). The difference could indicate that nurse managers from the public hospitals regarded the survey as more important than private nurse managers did. The lower competencies of public nurse managers as well as the worse working conditions in public hospitals reinforce this explanation. In addition, private hospitals seem to have stricter rules and regulations for completing surveys. The hospital nurse managers from Medi-Clinic, for example, needed permission from the nursing director to participate in the survey and nurse managers from other private hospitals also wrote that they needed permission.

5.2 Respondents' Characteristics

The majority of the respondents were female, which reflects the nature of the occupation (American Nurses Association, 2008; Girvin, 1998, p. 71; Mathena, 2002). With a response rate of 5,2%, the male nurse managers were neither excluded nor over-presented. The rate is similar to the data about male nurses available from the Health System Trust (2008). In 2003, 5,48% of nurses registered with the South African Nursing Council were male, and in 2005, 5,67%. The low rate may also indicate that male nurses do not seek management positions.

Almost all nurse managers were over 35 years old, and the majority were even over 50 years old. These data represent the trend in industrialised countries, which face an ageing workforce in nursing (American Nurses Association, 2008; International Council of Nurses, 2008a).

Problems related to an aging workforce could be a shortage of health professionals over the next 10 to 15 years, when most of the current nurse managers will retire. The retirement age for nurses in South Africa is from 60 years old. At the same time, the demand for nurses will grow due to the growth in the older population in developing countries (International Council of Nurses, 2008a). Even if life expectancy in South Africa is not increasing as it is in developed countries, South Africa faces other problems such as AIDS and TB, requiring greater nursing support. South Africa already faces a shortage of nurses. An estimated 36,3% of the professional nursing posts are vacant in the public sector (Day & Gray, 2007) and few new nurses are entering the labour market. According to the South African Health Review 2007 (Harrison et al., 2007) only 5,99% more nurses were registered with the SANC in 2006 than in 2005. The results from this research suggest that like nurses, management in nursing also faces an ageing workforce (International Council of Nurses, 2008a). This has to be addressed to sustain the quality of nursing and to improve service in the health care sector. Further, the aging workforce in nursing management has implications for the return on investments in training.

Of the nurse managers, 40% have less than 5 years experience in their current positions and only 27% have been longer than 10 years in their current position. As most nurse managers are older than 35, it is assumed that most nurse managers have already more than 10 years experience in nursing when they become nurse managers. Similarly, Roach and Smith (1991) found that hospitals tend to promote their nurses into management positions because of their clinical competency, but these skills are not enough to ensure that the nurse managers will perform with optimal efficiency in a management role (Roach & Smith, 1991).

The results are also consistent with the research of Chase (1994). In her research, she found that 91% of nurse managers had practiced nursing for more than 10 years. However, unlike in South Africa, 79% had been in management positions for over 5 years.

The difference could be related to a stronger performance orientation in the USA than in South Africa. The American system emphasises the market system, including short-term horizons in decisions (Hollingsworth, 1997) and performance orientation. In the USA nurse managers are promoted when they perform well and in South Africa they are promoted after a certain period of experience or age.

The high number of nurse managers who have been less than 5 years in their current positions also affects the efficiency of nursing management. Again, as Roach and Smith (1991) noted nurses seem to be promoted because of their years of experience in clinical knowledge rather

than because of managerial competencies, which could lead to poor management performance.

All except two respondents had nursing as their primary formal qualification, which also indicates that the classical career path of a senior nurse manager is becoming a nurse and then a nurse manager. People from outside the nursing environment seldom join the nursing profession. This suggests that either they do not want to or do not think about entering nursing management or they are not accepted by the nursing profession.

Most of the nurse managers had formal training in health care management. However, more than every tenth nurse manager did not have any formal health care-related management training. Considering that nurse managers main responsibility is managerial tasks, this finding is critical. The findings indicate that 12% did not have adequate training to perform their major tasks.

The majority of the nurse managers had some kind of informal training in HCM and 36,6% had done more than one training programme in HCM, suggesting that informal training is very common in nursing management. Especially in-service training, like workshops and seminars, proved to be common as almost half of all managers attended this kind of training. This also indicates that hospitals are concerned about development of their nurse managers. However, it is questionable how effective this kind of training is as it is not certified.

The characteristics of the public and private sectors were shown to be similar, as discussed above. However, two findings should be mentioned additionally. No nurse manager from the public sector was under 35 years old. This suggests that the aging workforce in the public sector is greater than in the private sector. It also suggests that the career path in the public sector is strictly related to the nurse managers' clinical experience.

Just over 50% of the nurse managers in the private sector intended attending training. This may suggest that many nurse managers in the private sector had enough training or that they are unaware of their training needs. As the competencies of the private nurse managers are higher than those of the public sector, it may be assumed that nurse managers in private hospitals received adequate training and therefore, fewer want to do further training. However, as discussed later on, continuous training is very important in nursing management and therefore nurse managers with high skills should also attend training and education programmes continuously.

As a group (public and private sector), male nurse managers are more likely to be under 35 years old and less likely to be over 50 years old. The results could suggest that more males are entering the profession than in the past. According to the Heath System Trust (2008), between 2003 and 2005, the number of male nurses registered with the SANC grew slightly from 5,48% to 5,67%. Another explanation is that younger male nurse managers are actively seeking management positions. This would support the general findings in the management literature that males are still overrepresented in management positions compared to females (Davidson & Burke, 2004, p.1; Oakley, 2000). The career possibility of reaching a management position could be used to attract males to the nursing profession.

The finding that younger nurse managers are more likely to have less than 5 years experience in their current position and that nurse managers over 50 years are more likely to have over 10 years experience suggests that nurse managers are still promoted because of their experience in nursing and clinical knowledge and that a nurse manager's career path starts late in his or her nursing career.

Advantages could be that the nurse managers probably have solid nursing experience when they enter management positions. In addition, they probably are more respected by other nurses if they are older. Disadvantages could be that nurse managers gain management experience later and could be more biased and prejudiced when they get into the management position. The positive attitude towards training decreases when people become older. In Canada, for example, the Adult Education and Training Survey found that participation in formal, job-related training was highest among young workers and declined with age (Peter, 2001). However, it was also found that the largest increase in participation occurred among the oldest workers (Peter, 2001), indicating a shift of attitudes toward training. As no significant relationship between age and attitude to training could be found, a relationship between age of nurse managers and bias is not suggested.

As most nurse managers of the age of 50 have been more than 5 years in their current positions and most of the nurse managers between 35-50 years have less than 5 years experience in their current positions, it is likely that most nurse managers are promoted between the age of 40 and 50 years. Therefore, it is important to provide training which is suitable for this age group. These nurse managers finished their nursing education several years ago, meaning they are not used to classical training, they require different training methodologies, and probably most of them have families, which is important to recognise for

the outline of the course (time schedules). As one nurse manager wrote, “Courses have to fit into working life”.

The finding that nurse managers between 35 and 50 years of age are less likely to have formal or informal training in HCM, indicates that they are at the beginning of their management career and lack adequate management training. It also suggests that they seek management training later on in their management career.

Mentoring is used most by nurse managers between 35 and 50 years. As nurses over 50 usually already have a lot of experience, it is logical that few of them want mentoring. They are more in the position to be mentors than mentorees. The desire for mentoring was mentioned explicitly by five respondents. One wrote that a “mentoring and support group would be good”. In addition, three respondents claimed that the period of vocational adjustment is not long enough. Especially during this period mentoring could be helpful for nurse managers.

The last significant anomalies occurred when comparing the categories age and sector. Respondents from the private sector were younger than their colleagues from the public sector. The high proportion of younger nurse managers in the private sector could indicate a more performance-oriented promotion, whilst in the public sector, it is more age- or experience-related. Generally, private organisations are more focused on efficiency as they are privately driven and therefore more profit-oriented than public organisations. The survey results also suggest that the private sector provides a career path for nurse managers earlier than does the public sector.

The majority (63,4%) intended attending further training. No significant differences exist in age or years of experience. This could indicate that even older and more experienced nurse managers realise the need for training and education. It could also indicate that nurse managers’ attitudes towards training and development are positive.

Male nurse managers in the **public sector** are more likely to be under 50 years old and less likely to be over 50 years old. In the public sector, nurse managers younger than 50 years old also tend to have less experience in their current position than older ones. These issues were discussed above.

Like male nurse managers in the public sector, those of the **private sector** are more likely to be younger. In the private sector nurse managers between 35 and 50 years also tend to have less experience in their current position than older nurse managers. These issues were discussed above. In addition, a relationship between the intention to attend training and age could be found. Nurse managers under 35 years are more likely to have the intention to attend training than nurse managers over 50 years. The suggestion is that younger nurse managers do not have much managerial experience and have just started their career in management. Therefore, their need as well as their motivation for management training is probably higher than that of older nurse managers.

5.3 Self-Assessment

As a **group**, all participants assessed themselves as reasonably competent in all categories as the mean for each competency is higher than 3. Nurse managers felt most competent in self-management, planning, and leading, followed by controlling, organising, dealing with legal and ethical issues, and their ability to deliver health care.

The competencies in which the nurse managers feel more competent (self-management, planning, leading) are those which are more people-related and those involving transformation skills, according to the leadership competency model of the National Center for Healthcare Leadership (2006, p. 15). The other skills like controlling, organising, dealing with legal and ethical issues and the ability to deliver health are executive skills needed to implement the vision, strategy and instruments (National Center for Healthcare Leadership, 2006, p. 15).

Nurse managers feel themselves most competent in self-management. These skills, like time management, learning from experience, and self-development, are more independent from other factors like employees, colleges or the environment. Managers can develop their self-management skills highly independently from external factors. In addition, these skills are developed during their whole (working) life. Self-management is already an important skill during education and in former positions. Therefore, the years of experience in self-management are greater than for other skills like leading or planning. Nurse managers rarely learn leading and planning as nurses; they probably just start to gain experience as they enter their role of a leader or manager.

Nursing is by nature a very challenging occupation, as nurses have to work shifts, they work overtime and they have to deal with inter-staff conflicts as well as with death and dying (Girvin, 1998; International Council of Nurses, 2008b; Lee, 2003, p. 87). These factors demand very structured procedures. Health personnel, more than others, have to be structured and disciplined to be successful in their profession. This can also explain the high competency level in self-management of the nurse managers.

In addition, they have to balance their work with their responsibilities to their families. Of the registered nurses from the American Nurses Association, 70.5% are married and the majority (52.1%) have children and/or other adults to care for at home (American Nurse Association, 2008). No data from South Africa could be found, but it is assumed, that, like the nurses from the USA, most nurses in South Africa are married and have children, too. This requires time management and ability to balance work and life issues from the nurse managers. In Mathena's (2002) survey, nurse managers also ranked balancing work and home very high.

Nurse managers ranked their planning skills as the second and leading as their third most highly rated competency. This complies with the results from Pillay's (2008) survey of hospital managers. They ranked their planning competencies first, self-management second and leading third. As planning is the most basic managerial function and leading was estimated as one of the most important skills for nurse manager in the literature, it is a positive finding that South African nurse managers assessed their skills in these areas so highly.

The nurse managers assessed their abilities concerning legal and ethical issues and ability to deliver health care lowest. Considering that all but two respondents did have health related backgrounds and most health management development programmes were housed in departments of health sciences, with a key focus on public health issues (Schaay et al., cited in Pillay, 2008), this is a surprising finding. However, it also reflects the results from Chase's (1994) survey. She found that nurse managers rank, for example, their ability to implement clinical skills, care planning, and nursing theories lowest (Chase, 1994). Hospital managers in Pillay's (2008) survey also ranked their ability to deliver health care lowest. Reasons for the perception of low ability to deliver health care could be that nurse managers do not perform this task very often. Probably the need for delivering of health care decrease when they become nurse managers and they focus more on other tasks. In addition, it can also indicate

that they do not perceive it as important and do not attend training programmes to enhance their skills.

The importance of being able to handle legal and ethical issues is mentioned in the literature (Kelly-Heidenthal, 2003, pp. 446 & 464; Marquis & Huston, 2003, p. 571; Tomey, 2004, p. 72; Yoder-Wise, 1999, p. 37). Nurse managers in the United States ranked their ability to deal with legal and ethical issues in the middle (Chase, 1994). One of the reasons why the ability of South African nurse managers in legal and ethical issues is second lowest could be the variety and the fast-changing nature of laws (Marquis & Huston, 2003, p. 571). South Africa is transforming from a very racial based system to one of the most democratic ones in the world (International Marketing Council, 2008a). In 1996, the new Constitution was adopted, which protects fundamental human rights to health care and social security (De Haan, 2005, p. 2; The Constitution of the Republic of South Africa, 1996). Diversity in South Africa is extremely high considering the number of different cultures, different official languages, and multiplicity of traditions and skin tones (International Marketing Council, 2008b). In addition, the Patients' Rights Charter, passed in 1996 (Department of Health, 1996), gives further challenges to nurse managers. New rules and regulations relating to nursing have been passed and they have to be implemented. Nurse managers are responsible for building a climate in which ethical behaviour is the norm and laws and regulations are maintained (Marquis & Huston, 2003, pp. 558 & 571).

A second reason why the skills of nurse managers are relatively low is that they have not received adequate training. The health care management programmes possibly lack coverage of legal and ethical issues.

As a **group**, a significant difference between population means (ANOVA) could be found between males and females. Males ranked themselves significantly better in controlling. One explanation could be that the items in the controlling category mainly involve evaluation, assessment, and measurement skills. These are more mathematical skills compared with the other evaluated skills. As, on average, men score higher in mathematics and science than women do (Brown & Corcoran, cited in Mitra, 2002) and they take more high school courses in the fields of mathematics and sciences (Fennema et al., cited in Mitra, 2002), this would explain their higher score in controlling.

Nurse managers with more than one course in informal training ranked themselves significantly better in dealing with legal and ethical issues than respondents with only one or no informal training course. As they attended more courses than others, they learned more than those who only attended one or no training courses. As they have significantly better skills in dealing with legal and ethical issues, this may suggest, that the informal courses focus on these kind of skills. It can also suggest that people who are open to training and development are more concerned about legal and ethical issues.

The nurse managers of the private sector assessed themselves better in almost all categories than did their colleagues from the public sector. Only in delivery of health care, they did not rank themselves significantly higher. Several explanations for this result are possible.

First, the training and education offered by the private hospitals could be better and broader than those provided by the public sector. All of the three major private hospital groups offer professional development for their employees and emphasis is placed on the importance of development and training, in particular for management.

Medi-Clinic (2008, para. 3) states that “The group has made a substantial investment in training and development with its main focus on: Continuing professional development, basic and post-basic nursing education, business process training and management and leadership development”.

Life Healthcare (2008, para. 3) publishes on its website that “Various investments in development and training are designed to retain and motivate staff to ever higher standards of health delivery and provision of care: The Life Healthcare College of Learning in partnership with the Nelson Mandela Metropolitan University offers a wide range of courses and each year hundreds of nurses receive diplomas and certificates for their achievements”.

Netcare (2008, para. 1) states that “To be effective, today’s business leaders must not only have the knowledge, technical skills and management competencies required to fulfil their roles successfully, but must also be able to integrate these competencies so as to achieve an appropriate balance between technical skills and business acumen“. These skills should be learned in the Faculty of Management and Leadership, which “has developed, in partnership with leading business schools, management development programmes customised to a Healthcare environment“.

Second, a reason for the higher competency level in the private sector could be that experienced nurse managers from the public sector move to the private sector. This means

that already experienced nurse managers from public hospitals go to the private sector and leave a position open in the public sector, which has to be filled with a new, inexperienced nurse manager. The migration of health professionals, including nurses from public to the private sector, is well recognised in the literature (Goudge et al., 2002, p. 73; Matsebula & Willie, 2007; National Department of Health, 2006). Nurses are attracted, beside by higher salaries, by reduced workloads, better facilitations, and better equipment (Matsebula & Willie, 2007).

Third, nurse managers in the public sector face higher challenges in managing nurses. Public hospitals are understaffed, face lower budgets and a higher nurse-patient ratio as well as less access to advanced technology (Harrison et al., 2007, p. viii; Padarath et al., 2003, p. 9). In such a badly equipped environment, it is more difficult to manage properly, compared with environments which are well appointed. One nurse manager, for example, said that the lack of nurses (human resources) makes it more difficult for nurse managers to do their job and another respondent wrote that lack of time hinders managers in functioning properly. Both respondents came from the public sector.

Given the fact that no significant difference in respondents' characteristics was found between the two groups, suggests that the work context may impact the management capacity.

The majority (63,4%) of respondents intended attending further training. No significant association between the self-assessment and intention to attend training could be found. That could mean that nurse managers who assessed themselves poorly are not aware of their training needs. This result is worrying as especially nurse managers with poor skills need to have training. Therefore, it is important that nurse managers' competencies and skills are also surveyed by third persons such as the hospital managers, nurses, or other external persons.

In the **public sector**, the analysis of variables revealed two significant differences. The nurse manager with other primary formal training in HCM assessed herself differently in organising, leading, and self-management and the nurse managers with other qualification in informal training in HCM assessed herself better in organising and controlling. As in both cases only one respondent assessed herself differently, no conclusions are drawn from these findings.

In the **private sector**, nurse managers over 50 years of age ranked their skills significantly higher in controlling. Generally it is logical that nurse managers that are older have more

experience and therefore are more competent than their younger colleagues. However, they only ranked themselves higher in the controlling category, suggesting that controlling needs more experience than the other management functions.

Nurse managers with more than one formal qualification assessed their competency in planning and in managing legal and ethical issues higher than the others. Here again, it is logical, that nurse managers with more qualifications are more competent than others. The higher competency is limited to planning and managing legal and ethical issues. An explanation could be that the courses they attended focused on planning and legal and ethical issues. Planning is somehow always included in qualifications. As mentioned, legal and ethical issues are becoming more important and possibly are more emphasised in all kind of trainings. It could also indicate that the training programmes are not comprehensive currently and that nurse managers need to attend more than one training programme to gain necessary skills.

The self-assessment of the **public nurse managers** differs slightly from those of the **private sector**. Nurse managers from the public sector ranked self-management, planning, and controlling highest, followed by leading, delivery of health, organising, and legal and ethical issues, whereas the private nurse managers ranked leading, self-management, and planning highest followed by controlling, organising, legal and ethical issues, and delivery of health care.

However, as mentioned, the nurse managers from the private sector assessed themselves significantly better in all but one competency (delivery of health care) compared with those from the public sector. Reasons for the different ranking in the self-assessment could be the different focus of training in the sectors as well as the different environment they are working in. Overall, the ranking is quite similar as both sectors ranked self-management, planning, and leading higher than organising, delivering of health care, and dealing with legal and ethical issues.

Only the categories leading and delivery of health are ranked differently. Leading was ranked in fourth place by the public sector and in first place by the private sector. An explanation could be different environments. In the public sector, the circumstances are more challenging. Long working hours and a high nurse-patient ratio could imply that the nurse managers just do not have the time to lead properly. Leading implies the abilities to communicate organisational goals, to motivate the employees as well as setting an organizational culture. In

a stressful and hectic environment, it is more difficult to implement these tasks as they need time and a stress-free atmosphere. In addition, the environment of the public sector is more bureaucratic and conservative, compared to the private sector, suggesting that nurse managers from the public sector still follow an autocratic leadership style and that they are more process-oriented than people-oriented.

5.4 Importance of Competencies

In **the group**, controlling was ranked as the most important competency, followed by leading, self-management, planning, organising, dealing with legal and ethical issues, and delivery of health care. All of these competencies, excluding delivery of health care, were ranked as highly important as the mean was over 4,5. This finding underlines the validity of the measurement as all competencies are ranked high and therefore are of value for nurse managers.

According to the Businessdictionary (2008b, para. 1), controlling includes “establishing benchmarks or standards, comparing actual performance against them, and taking corrective action, if required”. Controlling should rather be seen as a possibility to grow and develop in personal and professional terms than as an assessment of success or failure (Marquis & Huston, 2003). The controlling competency includes mainly assessment and measuring skills of organizational and financial performance, health quality systems and nursing quality management. Quality and performance improvement is therefore ranked as the most important issue in nursing management. The National Center for Healthcare Leadership (2006, p. 25) includes these skills in the execution domain named *accountability*, which is defined as “the ability to hold people accountable to standards of performance or ensure compliance using the power of one’s position or force of personality appropriately and effectively, with the long-term of the organization in mind”. In particular, nursing quality management (mean=4.72) and assessing the quality of care (mean=4.75) were ranked highest. With the high ranking of controlling, the nurse managers emphasised the importance of learning and continuous improvement.

Leading was ranked as the second most important competency for nurse managers. Motivating employees (mean =4.69) and communicating organizational goals (mean=4.63) were ranked as most important in the leading category and, overall, third and sixth,

respectively. One nurse manager wrote that “nurse managers should be people based”, and several respondents wrote that training in human resources management or labour relations is important. This finding is similar to international findings (Calhoun et al., 2004; Chase, 1994; Kleinmann, 2003; Lin et al., 2007; Mathena, 2002) and also correlates with Pillay’s survey (2008) of hospital managers in South Africa. According to Pointer and Sanchez (cited in Shortell & Kaluzny, 1994, p. 87) “Leadership is one of the most valued management abilities”.

The result underlines the importance of human and communications skills of managers on each level in general (Guo, 2003, p. 153; Lussier, 2006, p.18) and in particular for nursing. Health care and nursing are by nature elements of a human system and therefore leadership and human skills are very important. In addition, changes in health care environment, like new technologies and mergers, and more specifically, the transformation of the health care services in South Africa, and changes in restructuring and HR planning are taking place (Jooste, 2003b).

Self-management was ranked in third place by the nurse managers. As already discussed, self-management is extremely important for nurse managers as they are working under challenging conditions. They have to coordinate work shifts and long hours with their family commitments, as well as facing psychological tasks.

Delivery of health care was ranked least important. The result complies with other surveys (Calhoun et al., 2004; Chase, 1994; Lin et al., 2007; Mathena, 2002; Pillay, 2008). Katz’ (1955) conceptual framework indicates that each manager needs to have technical, human, and conceptual skills and that the need for each skill differs according to the management level. According to Katz (1955), human skills are necessary on every management level but technical skills are more important for lower level managers. According to Hogan and Warrenfeltz (cited in Lussier, 2006, p. 18) technical skills become less important the higher the managerial level. Lin et al. (2007) also found that nurse managers need different skills and abilities related to their management level. These results suggest that nurse managers are real managers and that delivery of health care should not be the foundation for health care training programmes for nurse managers.

Legal and ethical issues are ranked second least important. In Chase’s survey (1994), nurse managers ranked legal issues and ethical principles in the middle (place 48 and 59 out of 102). Ethics has been a crucial part of nursing practice from the earliest foundations of

modern nursing in the late 19th century. This has always entailed a respect for the human rights of the persons in their care (Kelly-Heidenthal, 2003, pp. 446 & 464; Marquis & Huston, 2003, p. 571; Sullivan & Decker, 1988, p. 121; Tomey, 2004, p. 72; Yoder-Wise, 1999, p. 37). As ethics has always played an important role in nursing, it is somewhat surprising that nurse managers ranked these competencies second least important.

Three of the four skills, belonging to legal and ethical issues are strongly related to legal issues. One conclusion could be that nurse managers are not responsible for these issues or, they do not realise their responsibility. Maybe labour related legislation, for example, is handled by the human resource department or maybe nurse managers just assume it is handled by other people in the hospital. A second conclusion could be that nurse managers do not have a grasp of legal and ethical issues and therefore rank them lower. Numerous changes occurred in the past 15 years in South Africa and it is difficult to follow all health care-related issues. The lower ranking of this competency can also explain the low performance of the nurse managers in legal and ethical issues. If they do not rank the importance of these issues high, they probably also do not focus on performing well or improving their abilities in these areas. However, it is important to bear in mind that nurse managers ranked all competencies high and that although legal and ethical issues are ranked lower than the other competencies, they still ranked it on a high level (4,505). One nurse manager mentioned social responsibility in the open question: "Nurse managers must be able to assess and have some social responsibility towards the community".

ANOVA found one relationship between the sectors and the competency of delivery health care, whereas the public sector assessed delivery of health care as significantly higher than did the private sector. As already mentioned, the private sector is profit-driven and focused on efficiency, whereas the public sector focuses on health care and delivery of health care as profit making is not pursued. Most categories were ranked in a similar order. Only organising was ranked third by the public sector and sixth by the private sector, whereas in the total ranking, it is in fifth place.

All managerial skills, expect delivery of health care, were ranked similarly by both sectors. This suggests that a uniform approach for training for the public and the private sectors is adequate. Even if the challenges are quite different in the sectors, the need for managerial skills and competencies is similar. It is recommended that management training, which is the same for the public and private sectors, should be developed based on the same competency

framework (WHO, 2007f, p. 13). According to the WHO (2007f, p. 13), proven learning materials should also be shared and not be developed by each training institute.

No significant difference in categories was found between the **private and public sectors** using ANOVA.

5.5 The Competency Gap

In **the group**, the highest competency gap was found for legal and ethical issues, followed by organising, delivery of health care, and controlling. Smaller gaps were found in leading, planning, and self-management. However, each competency possesses a significant gap (average -0,603). The competency gap for the public sector is significantly higher (-0,819) than the private sector (-0,36), indicating that the competencies of public nurse managers are indeed much lower or that they lack self-belief. Pillay (2008), in a survey of hospital managers in South Africa, reported the same findings. Even though the competency gap is lower in controlling, self-management, and leading, which were ranked as the most important competencies, the gap is still of some concern, as it is significant.

In the open question, respondents indicated that nurse managers need more training in management in general, and more specifically, in finance and budgeting as well as human resources, change, research, and IT. The emphasis on abilities to manage change is similar to that found in the literature. Booyens (1993, p. 462) emphasised the need for the ability to manage change successfully and to be resilient and flexible has become the hallmark of an efficient and happy leader. Due to the fast-changing world in which the nurse managers operate, they must develop skills that will enable them to accomplish change effectively (Booyens, 1993, p. 462).

5.6 Major Outcomes and Recommendations for the Future

The majority of nurse managers surveyed were over 50 years old, which has consequences for natural attrition and replacement as well as for the return on investment from the development of these nurse managers. As the same is true for hospital managers in South Africa and the purpose of the health care sector is not only to ensure stability but to improve the sector, the future sustainability of the health care sector is at risk. The fact that 40% of the nurse managers have been less than 5 years in their current position exacerbates the situation. Both

factors, the age and the years in current position, were worse in the public sector. It is also worrying that more than every 10th nurse manager did not have any formal qualification in HCM. Informal training in HCM seems to be very common. However, as these courses and training programmes are not certified, it is questionable whether they provide adequate training and education. These results lead to the conclusion that nurse managers are not adequately trained for their positions or at least lack important experience. This is worse in the public sector than in the private sector. Therefore, it is crucial to develop managers with solid managerial skills and competencies to achieve the millennium goals as well as the national goals in health care. In addition, it appears that nurses are still promoted to nurse managers if they have clinical instead of managerial skills. The findings suggest that nurse manager positions should be occupied by people with managerial skills and not by people who only have clinical skills, a notion that was also suggested by Roach and Smith (1991).

All categories were ranked as important. However, delivery of health care was ranked least important and should therefore not be the focus of HCM training. Controlling and leading were ranked most important. It is important to interpret controlling not as autocratic leadership but as ability for performance improvement and to create a culture of accountability and continuous development as well as the ability to translate the vision and strategy of an organisation into optimal organisational performance (National Center for Healthcare Leadership, 2006). Leading and self-management were ranked second and third most important. This is best compared with the “people domain” of the National Center for Healthcare Leadership (2006) competency model. It is defined as “creating an organisational climate that values employees from all backgrounds and provides an energizing environment for them. It also includes the leader’s responsibility to understand his or her impact on others and to improve his or her capabilities, as well as the capabilities of others” (National Center for Healthcare Leadership, 2006, p. 15). By ranking controlling as the most important factor and mentioning the need for budgeting and financial skills in the open question, nurse managers emphasised the importance of strong economical and managerial skills and competencies for nurse managers.

The competency gap in the public sector is significantly higher than that of the private sector, which could be an explanation of the different performances between the sectors. Public nurse managers rated their competencies as significantly lower than nurse managers from the private sector. Either their competencies are indeed lower or they lack self-confidence.

Regardless of the explanation, the low rating is a barrier for the public health care sector to develop customer-oriented services and suggests that the public sector managers need more training in management competencies (Pillay, 2008).

According to the WHO (2007f, p. 1), the conditions for good management are an adequate number of managers, functional support systems, enabling working environment, and appropriate competencies. The appropriate competencies were surveyed in this research project; however it is important to bear in mind that the other factors have to be addressed as well to improve the management performance in health care.

Beside a lack of managerial capacities, a lack of support, work overload, poor working conditions, and emotional burnout are believed to be factors which influence the performance of health care managers (Lehmann & Sanders, 2003). This was also mentioned by the nurse managers as they wrote, “Shortage resources make it difficult for nurse managers”; “All targets have to be met and every one shouts quality but without budget, nurse managers can not deliver”; “Performance appraisals are idealistic. Unit Managers are not trained adequately and do not have time in a busy unit, with staff shortages, to effectively perform and manage staff”.

Further training needs to be based on needs assessment rather than on perceived needs (WHO, 2007f, p. 13). The incumbents views are surveyed, but the self-assessment of the nurse managers may be biased. Therefore, it is suggested that the results be validated by surveying other stakeholders such as hospital managers, nurses, training providers, or other health care experts.

5.6.1 Future Training

When conceptualising and designing appropriate programmes aimed at enhancing management capacity in the health sector in South Africa it is crucial to implement the findings mentioned above. It is recommended that the private training programmes offered by the major hospital groups be analysed to check if they are indeed better than others and if so, why. It is also suggested that the requirements for courses be analysed by evaluating the nurse managers' circumstances, for example, their family situations and their ability to learn. As most nurse managers are promoted into their positions when they are older, and it is assumed that they have to manage their career with their family life, it is crucial to be aware of these circumstances. As one nurse manager wrote “courses have to fit with working life”.

In addition, nurse managers need further training and education continuously. Some comments from the nurse managers relating to training were “regular short courses are necessary to keep up with change”, “mentoring would be good”, and “adapting to quick changes and management of changes has increased and needs further training in the future”. It was also emphasised that nursing management training should be practically and not theoretically oriented. The WHO (2007f, p. 13) recommends on-the-job support, including technical assistance, mentoring and coaching, and learning networks.

The training programmes have to be based on an appropriate, agreed competency model. “Competence frameworks must be locally devised and written to ensure relevance and ownership, but must have a lot in common and can be based on international generic materials” (WHO, 2007f, p. 13). As no agreed competency framework for nursing management exists in South Africa, it is recommended that one be developed for future training and education to create appropriate management courses.

5.6.2 Limitations of the Study

It is important to note that the self-assessment of nurse managers and the ranking of importance of competencies was subjective and not externally validated. It could be influenced by the nurse managers’ lack of knowledge about the topic and therefore lack confidence in being able to rate the items. The competencies listed may also not have fully reflected the scope of nurse managers.

5.7 Conclusion

Nurse managers in the public and private health care sectors lack managerial competencies in all relevant management fields. The gap is much larger in the public sector than in the private sector. It shows that there is great need for the further development of nurse managers, particularly in the public sector. The respondents indicated strong managerial competencies as being crucial for nurse managers to perform well. Finance and budgeting were mentioned most in the open question, followed by management in general, human resource management, change, research, and information technologies. The statistical analysis showed that nurse managers ranked controlling (including quality management and performance assessment) and leading as the most important skills. Continuous training and education is highly important for nurse managers to keep up with required managerial skills because of the many changes in the health care environment. As one respondent wrote “They (nurse managers)

need to be equipped with management and leadership skills. Training would strengthen them to assist the country towards achieving its goals”.



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APPENDICES

COVER LETTER

Dear Nurse Manager,

You are kindly invited to participate in a nation-wide survey to assess the status of the management capacity within the nursing professionals in South Africa. Although nurse managers are central to overcoming the challenges facing health care delivery in South Africa, there has been no formal evaluation of the capacity of managers as well as the competencies that are important for effective management of health service organizations in South Africa. Your thoughts will be of great value as we aimed improving management capacities within the nursing professionals.

This research project is being conducted by the Department of Management at the University of Western Cape and aims to facilitate a better understanding of the issues that are important to you, our health care managers. The enclosed questionnaire forms part of a national study of nurse managers. The questionnaire is designed for easy and quick completion and should take no more than 15 minutes. There are no correct or incorrect responses -only your valuable opinions and experiences.

Please follow the instructions carefully and return the questionnaire by fax or postal mail as soon as is convenient to you.

Your contribution in this regard would be highly appreciated and we thank you in anticipation for your assistance.

Thank you

INSTRUCTION LETTER

Questionnaire on the management training of nurse managers

Instructions

1. Please read all questions carefully and make sure you know exactly what is required.
2. Answer each question, where relevant, by making a cross in the appropriate block next to the question. Please answer all questions.
3. Please return the completed questionnaire at your earliest convenience by making use of the enclosed prepaid, pre-addressed envelope.
4. All results will be aggregated and statistically treated before being incorporated into the research findings. The general research findings will be made available for publication.
5. This survey is **completely anonymous**. Please do not provide any personal information such as a name or contact number.
6. **All information will be treated as strictly confidential.**

QUESTIONNAIRE

Answer the following questions by making a cross in the appropriate block

1. BIOGRAPHIC DETAILS

1.1 GENDER

MALE	FEMALE
------	--------

 1.2 AGE

<35	35-50	>50
-----	-------	-----

1.3. NUMBER OF YEARS IN CURRENT POSITION

<5	5-10	>10
----	------	-----

1.4 PRIMARY FORMAL (Certified) QUALIFICATION? (Initial field of study)

a. Nursing

b. Other health related

c. Commerce/Management related

e. Other (Please Specify)

1.5 HAVE YOU HAD ANY FORMAL (Certified) TRAINING IN HEALTH CARE MANAGEMENT? (Subsequent to primary formal education)

a. None

b. Certificate

c. Diploma

d. Degree

e. Other (Please specify)

1.6 HAVE YOU HAD ANY INFORMAL TRAINING IN HEALTH CARE MANAGEMENT?

a. None

b. Mentoring

c. Non Certified courses

d. In-Service training (workshops, seminars, etc.)

e. Other (Please specify)

1.7 DO YOU INTEND TO ATTEND ANY HEALTH MANAGEMENT/ MANAGEMENT TRAINING PROGRAMS WITHIN THE NEXT FIVE YEARS?

YES	NO
-----	----

If yes, please specify

2. INSTITUTIONAL CHARACTERISTICS

SECTOR

PUBLIC SECTOR	PRIVATE SECTOR
---------------	----------------

3. DEVELOPED ABILITIES

Please indicate your level of competency with the following skills:

	very poor	poor	reasonable	good	excellent
3.1 Delivery of health care					
• Use of tools to standardize patient management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Evaluating medical necessity and effectiveness of products or interventions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Planning and implementation of health promotion programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of Epidemiologic data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing the impact of health services delivery on health of population	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Delivery of primary preventive services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Integration of your services with District Health System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Delivery of curative services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Nursing standard and guideline setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.2 Planning					
• Program planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Preparation of a strategic plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Creating a vision for your hospital	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Implementing doctor's orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Planning for future needs and developments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Development of hospital goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.3 Organizing					
• Budgeting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Resource planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Structuring Health Service organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Control and allocation of financial resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of management information systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of health service technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Appropriate use of human resource management principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Human Resource planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Personnel management including performance appraisal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Planning nursing training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	very poor	poor	reasonable	good	excellent
3.4 Leading					
• Managing teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Communicating organizational goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Managing conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Motivating employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Managing workforce diversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Labour relations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Setting organizational culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.5 Control					
• Measurement of organizational performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing the quality of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Evaluating health service delivery programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Financial performance evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing patient satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Providing feedback to patients and staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Implementing health quality improvement systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Nursing quality management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Environmental safety and sanitation management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.6 Legal and ethical issues					
• Identification and analysis of an ethical issue in a health care setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Identification and analysis of a liability issue in a health care setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Labour related legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Health related legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3.7 Self management					
• Learning from experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Acting independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Awareness of personal strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Balancing work and life issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Self development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. HOW WOULD YOU RATE THE IMPORTANCE OF THE FOLLOWING COMPETENCIES FOR THE EFFECTIVE MANAGEMENT OF HEALTH SERVICE ORGANIZATIONS?

	not important	somewhat important	not sure	important	very important
• Motivating employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of tools to standardize patient management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Awareness of personal strengths and weaknesses	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Personnel management including performance appraisal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Managing teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Environmental safety and sanitation management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing the impact of health services delivery on health of population	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of health service technology	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Labour related legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Health related legislation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Nursing standard and guideline setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Time management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Appropriate use of human resource management principles	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Self development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Communicating organizational goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of Epidemiologic data	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Managing conflict	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Development of hospital goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Labour relations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Providing feedback to patients and staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Setting organizational culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Evaluating medical necessity and effectiveness of products or interventions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Identification and analysis of a liability issue in a health care setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Program planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Use of management information systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Integration of your services with District Health System	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Managing workforce diversity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Delivery of curative services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	not important	somewhat important	not sure	important	very important
• Planning for future needs and developments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Implementing doctor's orders	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Identification and analysis of an ethical issue in a health care setting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Preparation of a strategic plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Measurement of organizational performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Evaluating health service delivery programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Delivery of primary preventive services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing patient satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Implementing health quality improvement systems	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Nursing quality management	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Planning and Implementation of health promotion programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Assessing the quality of care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Financial performance evaluation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Acting independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Structuring Health Service organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Control and allocation of financial resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Planning nursing training	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Learning from experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Budgeting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Balancing work and life issue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Resource planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Creating a vision for your organization	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
• Human Resource planning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



5. DO YOU HAVE ANY GENERAL COMMENTS ON THE MANAGEMENT CAPACITY OR THE MANAGEMENT TRAINING OF NURSE MANAGERS IN SOUTH AFRICA?

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.....

THANK YOU FOR YOUR TIME AND VALUABLE COMMENTS.



UNIVERSITY *of the*
WESTERN CAPE

CHI-SQUARE TEST PUBLIC SECTOR

Gender * Age Crosstabulation			Age		
			35-50	>50	Total
Gender	male	Count	4	0	4
		Expected Count	1,5	2,5	4
		% within Gender	100,00%	0,00%	100,00%
		% within Age	11,80%	0,00%	4,30%
		% of Total	4,30%	0,00%	4,30%
	female	Count	30	58	88
		Expected Count	32,5	55,5	88
		% within Gender	34,10%	65,90%	100,00%
		% within Age	88,20%	100,00%	95,70%
		% of Total	32,60%	63,00%	95,70%
Total	Count	34	58	92	
	Expected Count	34	58	92	
	% within Gender	37,00%	63,00%	100,00%	
	% within Age	100,00%	100,00%	100,00%	
	% of Total	37,00%	63,00%	100,00%	
Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)		
Pearson		1	0,008		
Chi-Square 7.134(b)					

Gender * Formal/certified training in Health Care Management									
Crosstabulation									
			Formal/certified training in Health Care Management						
			none	certificate	diploma	degree	other	more than one qualification	Total
Gender	male	Count	0	2	0	1	0	1	4
		Expected Count	0,2	0,3	1,2	1,4	0,1	0,8	4
		% within Gender	0,00%	50,00%	0,00%	25,00%	0,00%	25,00%	100,00%
		% within Formal/certified training in Health Care Management	0,00%	28,60%	0,00%	3,00%	0,00%	5,60%	4,30%
		% of Total	0,00%	2,20%	0,00%	1,10%	0,00%	1,10%	4,30%
female	Count	5	5	27	32	3	17	89	
	Expected Count	4,8	6,7	25,8	31,6	2,9	17,2	89	
	% within Gender	5,60%	5,60%	30,30%	36,00%	3,40%	19,10%	100,00%	
	% within Formal/certified training in Health Care Management	100,00%	71,40%	100,00%	97,00%	100,00%	94,40%	95,70%	
	% of Total	5,40%	5,40%	29,00%	34,40%	3,20%	18,30%	95,70%	
Total	Count	5	7	27	33	3	18	93	
	Expected Count	5	7	27	33	3	18	93	
	% within Gender	5,40%	7,50%	29,00%	35,50%	3,20%	19,40%	100,00%	
	% within Formal/certified training in Health Care Management	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	
	% of Total	5,40%	7,50%	29,00%	35,50%	3,20%	19,40%	100,00%	
Chi-Square Tests									
	Value	df	Asymp. Sig. (2-sided)						
Pearson		5	0,038						
Chi-Square	11.789(a)								

Age * Number of years in current position Crosstabulation

		Number of years in current position				
		<5	5-10	>10	Total	
Age	35-50	Count	18	12	4	34
		Expected Count	13,7	11,5	8,9	34
		% within Age	52,90%	35,30%	11,80%	100,00%
		% within Number of years in current position	48,60%	38,70%	16,70%	37,00%
		% of Total	19,60%	13,00%	4,30%	37,00%
>50		Count	19	19	20	58
		Expected Count	23,3	19,5	15,1	58
		% within Age	32,80%	32,80%	34,50%	100,00%
		% within Number of years in current position	51,40%	61,30%	83,30%	63,00%
		% of Total	20,70%	20,70%	21,70%	63,00%
Total		Count	37	31	24	92
		Expected Count	37	31	24	92
		% within Age	40,20%	33,70%	26,10%	100,00%
		% within Number of years in current position	100,00%	100,00%	100,00%	100,00%
		% of Total	40,20%	33,70%	26,10%	100,00%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	6.453(a)	2	0,04

CHI-SQUARE TEST PRIVATE SECTOR

			Age			Total
			<35	35-50	>50	
Gender	male	Count	2	0	3	5
		Expected Count	0,4	2,5	2,1	5
		% within Gender	40,00%	0,00%	60,00%	100,00%
		% within Age	33,30%	0,00%	9,40%	6,60%
		% of Total	2,60%	0,00%	3,90%	6,60%
	female	Count	4	38	29	71
		Expected Count	5,6	35,5	29,9	71
		% within Gender	5,60%	53,50%	40,80%	100,00%
		% within Age	66,70%	100,00%	90,60%	93,40%
		% of Total	5,30%	50,00%	38,20%	93,40%
	Total	Count	6	38	32	76
		Expected Count	6	38	32	76
		% within Gender	7,90%	50,00%	42,10%	100,00%
		% within Age	100,00%	100,00%	100,00%	100,00%
		% of Total	7,90%	50,00%	42,10%	100,00%
Chi-Square Tests						
	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	10.071(a)	2	0,007			

		Number of years in current position				
		<5	5-10	>10	Total	
Age	<35	Count	3	3	0	6
		Expected Count	2,4	2	1,7	6
		% within Age	50,00%	50,00%	0,00%	100,00%
		% within Number of years in current position	10,00%	12,00%	0,00%	7,90%
		% of Total	3,90%	3,90%	0,00%	7,90%
	35-50	Count	20	12	6	38
		Expected Count	15	12,5	10,5	38
		% within Age	52,60%	31,60%	15,80%	100,00%
		% within Number of years in current position	66,70%	48,00%	28,60%	50,00%
		% of Total	26,30%	15,80%	7,90%	50,00%
	>50	Count	7	10	15	32
		Expected Count	12,6	10,5	8,8	32
		% within Age	21,90%	31,30%	46,90%	100,00%
		% within Number of years in current position	23,30%	40,00%	71,40%	42,10%
		% of Total	9,20%	13,20%	19,70%	42,10%
Total	Count	30	25	21	76	
	Expected Count	30	25	21	76	
	% within Age	39,50%	32,90%	27,60%	100,00%	
	% within Number of years in current position	100,00%	100,00%	100,00%	100,00%	
	% of Total	39,50%	32,90%	27,60%	100,00%	
Chi-Square Tests						
	Value	df	Asymp. Sig. (2-sided)			
Pearson Chi-Square	12.801(a)	4	0,012			

Age * Formal/certified training in Health Care Management Crosstabulation

			Formal/certified training in Health Care Management						
			none	certificate	diploma	degree	other	more than one qualification	Total
Age	<35	Count	0	2	0	1	1	2	6
		Expected Count	1,2	0,6	1,7	1,5	0,3	0,7	6
		% within Age	0,00%	33,30%	0,00%	16,70%	16,70%	33,30%	100,00%
		% within Formal/certified training in Health Care Management	0,00%	28,60%	0,00%	5,30%	25,00%	22,20%	7,90%
		% of Total	0,00%	2,60%	0,00%	1,30%	1,30%	2,60%	7,90%
35-50	Count	Count	8	4	12	6	3	5	38
		Expected Count	7,5	3,5	11	9,5	2	4,5	38
		% within Age	21,10%	10,50%	31,60%	15,80%	7,90%	13,20%	100,00%
		% within Formal/certified training in Health Care Management	53,30%	57,10%	54,50%	31,60%	75,00%	55,60%	50,00%
		% of Total	10,50%	5,30%	15,80%	7,90%	3,90%	6,60%	50,00%
>50	Count	Count	7	1	10	12	0	2	32
		Expected Count	6,3	2,9	9,3	8	1,7	3,8	32
		% within Age	21,90%	3,10%	31,30%	37,50%	0,00%	6,30%	100,00%
		% within Formal/certified training in Health Care Management	46,70%	14,30%	45,50%	63,20%	0,00%	22,20%	42,10%
		% of Total	9,20%	1,30%	13,20%	15,80%	0,00%	2,60%	42,10%
Total	Count	Count	15	7	22	19	4	9	76
		Expected Count	15	7	22	19	4	9	76
		% within Age	19,70%	9,20%	28,90%	25,00%	5,30%	11,80%	100,00%
		% within Formal/certified training in Health Care Management	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%
		% of Total	19,70%	9,20%	28,90%	25,00%	5,30%	11,80%	100,00%
Value	df	Asymp. Sig. (2-sided)							
Pearson Chi-Square	18.690(a)	10	0,044						

Informal training in Health Care Management * Do you intend to attend any health management or management training programmes within the next five years? Crosstabulation

		Do you intend to attend any health management or management training programmes within the next five years?			
		yes	no	Total	
Informal training in Health Care Management	none	Count	2	5	7
		Expected Count	3,9	3,1	7
		% within Informal training in Health Care Management	28,60%	71,40%	100,00%
		% within Do you intend to attend any health management or management training programmes within the next five years?	4,70%	14,70%	9,10%
		% of Total	2,60%	6,50%	9,10%
	mentoring	Count	1	2	3
		Expected Count	1,7	1,3	3
		% within Informal training in Health Care Management	33,30%	66,70%	100,00%
		% within Do you intend to attend any health management or management training programmes within the next five years?	2,30%	5,90%	3,90%
		% of Total	1,30%	2,60%	3,90%
	non certified courses	Count	1	2	3
		Expected Count	1,7	1,3	3
% within Informal training in Health Care Management		33,30%	66,70%	100,00%	
% within Do you intend to attend any health management or management training programmes within the next five years?		2,30%	5,90%	3,90%	
	% of Total	1,30%	2,60%	3,90%	
in-service training (workshops, seminars, etc)	Count	10	17	27	
	Expected Count	15,1	11,9	27	
	% within Informal training in Health Care Management	37,00%	63,00%	100,00%	
	% within Do you intend to attend any health management or management training programmes within the next five years?	23,30%	50,00%	35,10%	
	% of Total	13,00%	22,10%	35,10%	
other	Count	1	0	1	
	Expected Count	0,6	0,4	1	
	% within Informal training in Health Care Management	100,00%	0,00%	100,00%	
	% within Do you intend to attend any health management or management training programmes within the next five years?	2,30%	0,00%	1,30%	

		management or management training programmes within the next five years?			
		% of Total	1,30%	0,00%	1,30%
more than one	Count		28	8	36
qualifi-cation	Expected Count		20,1	15,9	36
		% within Informal training in Health Care Management	77,80%	22,20%	100,00%
		% within Do you intend to attend any health management or management training programmes within the next five years?			
		% of Total	65,10%	23,50%	46,80%
Total	Count		43	34	77
	Expected Count		43	34	77
		% within Informal training in Health Care Management	55,80%	44,20%	100,00%
		% within Do you intend to attend any health management or management training programmes within the next five years?			
		% of Total	100,00%	100,00%	100,00%
		% of Total	55,80%	44,20%	100,00%
Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)		
Pearson Chi-Square	15.032(a)	5	0,01		

ANALYSIS OF VARIANCE - SELF-ASSESSMENT IN THE PUBLIC AND PRIVATE SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery of Health Care	male	9	3,790	0,325	0,569
	female	162	3,680		
	Total	171	3,686		
Mean Planning	male	9	4,370	2,564	0,111
	female	162	4,038		
	Total	171	4,056		
Mean Organising	male	9	4,178	2,901	0,090
	female	163	3,785		
	Total	172	3,805		
Mean Leading	male	8	4,196	0,807	0,370
	female	164	3,996		
	Total	172	4,005		
Mean Controlling	male	8	4,472	6,664	0,011
	female	165	3,958		
	Total	173	3,981		
Mean Legal & Ethics	male	8	4,031	2,651	0,105
	female	165	3,676		
	Total	173	3,692		
Mean Self-management	male	8	4,333	0,862	0,355
	female	165	4,146		
	Total	173	4,155		

	Age	N	Mean	F	Sig.
Mean Delivery of Health Care	<35	6	3,556	0,223	0,800
	35-50	73	3,674		
	>50	90	3,705		
	Total	169	3,686		
Mean Planning	<35	6	4,528	2,027	0,135
	35-50	72	4,009		
	>50	91	4,062		
	Total	169	4,056		
Mean Organising	<35	6	4,317	1,967	0,143
	35-50	73	3,757		
	>50	91	3,823		
	Total	170	3,812		
Mean Leading	<35	6	4,405	1,322	0,269
	35-50	72	3,986		
	>50	92	3,990		
	Total	170	4,003		

Mean Controlling	<35	6	4,278	0,929	0,397
	35-50	72	3,955		
	>50	93	3,982		
	Total	171	3,981		
Mean Legal & Ethics	<35	6	4,250	2,741	0,067
	35-50	72	3,653		
	>50	93	3,691		
	Total	171	3,694		
Mean Self-management	<35	6	4,417	1,215	0,299
	35-50	72	4,185		
	>50	93	4,100		
	Total	171	4,147		

	Years in current position	N	Mean	F	Sig.
Mean Delivery of Health Care	<5	68	3,634	1,436	0,241
	5-10	58	3,787		
	>10	45	3,632		
	Total	171	3,686		
Mean Planning	<5	68	3,988	0,795	0,453
	5-10	58	4,124		
	>10	45	4,070		
	Total	171	4,056		
Mean Organising	<5	68	3,779	0,208	0,812
	5-10	57	3,853		
	>10	47	3,786		
	Total	172	3,805		
Mean Leading	<5	68	3,931	0,833	0,437
	5-10	57	4,060		
	>10	47	4,047		
	Total	172	4,005		
Mean Controlling	<5	68	3,990	0,355	0,701
	5-10	58	3,935		
	>10	47	4,026		
	Total	173	3,981		
Mean Legal & Ethics	<5	68	3,665	0,475	0,623
	5-10	58	3,664		
	>10	47	3,766		
	Total	173	3,692		
Mean Self-management	<5	68	4,140	0,272	0,762
	5-10	58	4,198		
	>10	47	4,124		
	Total	173	4,155		

	Primary formal qualification	N	Mean	F	Sig.
Mean Delivery of Health Care	nursing	126	3,680	0,062	0,980
	commerce/management related	1	3,889		
	other	1	3,778		
	more than one qualification	44	3,697		
	Total	172	3,686		
Mean Planning	nursing	126	4,032	0,227	0,877
	commerce/management related	1	4,167		
	other	1	4,000		
	more than one qualification	44	4,117		
	Total	172	4,054		
Mean Organising	nursing	126	3,825	0,190	0,903
	commerce/management related	1	3,800		
	other	1	4,000		
	more than one qualification	45	3,742		
	Total	173	3,804		
Mean Leading	nursing	125	4,028	0,252	0,860
	commerce/management related	1	3,714		
	other	1	4,000		
	more than one qualification	45	3,949		
	Total	172	4,005		
Mean Controlling	nursing	127	3,972	0,078	0,972
	commerce/management related	1	4,222		
	other	1	4,000		
	more than one qualification	45	3,993		
	Total	174	3,979		
Mean Legal & Ethics	nursing	127	3,665	0,461	0,710
	commerce/management related	1	3,500		
	other	1	4,000		
	more than one qualification	45	3,772		
	Total	174	3,694		
Mean Self-management	nursing	127	4,193	0,740	0,529
	commerce/management related	1	4,167		
	other	1	4,000		
	more than one qualification	45	4,052		
	Total	174	4,155		

	Formal qualification in HCM	N	Mean	F	Sig.
Mean Delivery of Health Care	none	20	3,733	1,048	0,392
	certificate	14	3,611		
	diploma	49	3,596		
	degree	53	3,818		
	other	7	3,540		
	more than one qualification	29	3,636		
	Total	172	3,686		
Mean Planning	none	21	4,032	0,522	0,759
	certificate	14	4,262		
	diploma	49	4,058		
	degree	53	4,000		
	other	7	4,214		
	more than one qualification	28	4,024		
	Total	172	4,054		
Mean Organising	none	20	3,730	0,546	0,742
	certificate	15	4,033		
	diploma	50	3,832		
	degree	52	3,788		
	other	7	3,857		
	more than one qualification	29	3,703		
	Total	173	3,804		
Mean Leading	none	21	3,952	0,509	0,770
	certificate	14	4,153		
	diploma	50	4,053		
	degree	51	3,983		
	other	7	4,143		
	more than one qualification	29	3,897		
	Total	172	4,005		
Mean Controlling	none	21	3,968	0,462	0,804
	certificate	14	4,135		
	diploma	50	3,931		
	degree	53	4,013		
	other	7	4,079		
	more than one qualification	29	3,908		
	Total	174	3,979		
Mean Legal & Ethics	none	21	3,905	0,767	0,574
	certificate	14	3,696		
	diploma	50	3,605		
	degree	53	3,675		
	other	7	3,786		
	more than one qualification	29	3,707		
	Total	174	3,694		

Mean Self-management	none	21	4,175	0,637	0,672
	certificate	14	4,250		
	diploma	50	4,180		
	degree	53	4,167		
	other	7	4,286		
	more than one qualification	29	4,000		
	Total	174	4,155		

	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery of Health Care	none	18	3,778	1,110	0,357
	mentoring	6	3,222		
	non certified courses	6	3,648		
	in-service training (workshops, seminars, etc)	78	3,689		
	other	2	3,333		
	more than one qualification	62	3,715		
	Total	172	3,686		
Mean Planning	none	18	3,713	3,359	0,006
	mentoring	6	3,917		
	non certified courses	6	4,028		
	in-service training (workshops, seminars, etc)	79	3,970		
	other	2	4,167		
	more than one qualification	61	4,276		
	Total	172	4,054		
Mean Organising	none	18	3,475	2,806	0,018
	mentoring	6	3,350		
	non certified courses	6	3,600		
	in-service training (workshops, seminars, etc)	78	3,771		
	other	2	4,300		
	more than one qualification	63	3,986		
	Total	173	3,804		
Mean Leading	none	18	3,762	1,647	0,150
	mentoring	6	3,643		
	non certified courses	6	3,881		
	in-service training (workshops, seminars, etc)	76	3,990		
	other	2	4,143		
	more than one qualification	64	4,134		
	Total	172	4,005		

Mean Controlling	none	18	3,809	1,620	0,157
	mentoring	6	3,870		
	non certified courses	6	3,722		
	in-service training (workshops, seminars, etc)	78	3,929		
	other	2	4,000		
	more than one qualification	64	4,122		
	Total	174	3,979		
Mean Legal & Ethics	none	18	3,375	2,475	0,034
	mentoring	6	3,458		
	non certified courses	6	3,542		
	in-service training (workshops, seminars, etc)	78	3,657		
	other	2	3,625		
	more than one qualification	64	3,867		
	Total	174	3,694		
Mean Self-management	none	18	4,139	0,071	0,996
	mentoring	6	4,167		
	non certified courses	6	4,056		
	in-service training (workshops, seminars, etc)	78	4,147		
	other	2	4,250		
	more than one qualification	64	4,174		
	Total	174	4,155		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery of Health Care	yes	109	3,699	0,164	0,686
	no	63	3,663		
	Total	172	3,686		
Mean Planning	yes	109	4,043	0,105	0,746
	no	63	4,074		
	Total	172	4,054		
Mean Organising	yes	110	3,754	1,687	0,196
	no	63	3,892		
	Total	173	3,804		
Mean Leading	yes	108	3,962	1,426	0,234
	no	64	4,078		
	Total	172	4,005		
Mean Controlling	yes	110	3,947	0,946	0,332
	no	64	4,033		
	Total	174	3,979		

Mean Legal & Ethics	yes	110	3,664	0,751	0,387
	no	64	3,746		
	Total	174	3,694		
Mean Self-management	yes	110	4,109	2,080	0,151
	no	64	4,234		
	Total	174	4,155		

	Sector	N	Mean	F	Sig.
Mean Delivery of Health Care	public sector	93	3,655	0,637	0,530
	private sector	75	3,711		
	both sectors	4	3,944		
	Total	172	3,686		
Mean Planning	public sector	93	3,884	8,783	0,000
	private sector	75	4,260		
	both sectors	4	4,167		
	Total	172	4,054		
Mean Organising	public sector	93	3,623	7,877	0,001
	private sector	76	4,022		
	both sectors	4	3,875		
	Total	173	3,804		
Mean Leading	public sector	91	3,768	18,366	0,000
	private sector	77	4,293		
	both sectors	4	3,857		
	Total	172	4,005		
Mean Controlling	public sector	93	3,783	15,287	0,000
	private sector	77	4,222		
	both sectors	4	3,861		
	Total	174	3,979		
Mean Legal & Ethics	public sector	93	3,535	8,733	0,000
	private sector	77	3,899		
	both sectors	4	3,438		
	Total	174	3,694		
Mean Self-management	public sector	93	4,048	4,002	0,020
	private sector	77	4,286		
	both sectors	4	4,125		
	Total	174	4,155		

ANALYSIS OF VARIANCE - SELF-ASSESSMENT IN THE PUBLIC SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery of Health Care	male	4	4,02775	1,78	0,186
	female	88	3,63639		
	Total	92	3,6534		
Mean Planning	male	4	4,625	6,343	0,014
	female	88	3,85035		
	Total	92	3,88403		
Mean Organising	male	4	4,25	3,424	0,068
	female	88	3,59489		
	Total	92	3,62337		
Mean Leading	male	3	4,19033	1,507	0,223
	female	88	3,75406		
	Total	91	3,76844		
Mean Controlling	male	3	4,44433	4,366	0,039
	female	89	3,76283		
	Total	92	3,78505		
Mean Legal & Ethics	male	3	4,08333	2,54	0,114
	female	89	3,51124		
	Total	92	3,52989		
Mean Self-management	male	3	4,27767	0,488	0,487
	female	89	4,03934		
	Total	92	4,04711		

	Age	N	Mean	F	Sig.
Mean Delivery of Health Care	35-50	34	3,72224	0,666	0,417
	>50	57	3,61991		
	Total	91	3,65814		
Mean Planning	35-50	34	3,83335	0,392	0,533
	>50	57	3,91807		
	Total	91	3,88642		
Mean Organising	35-50	34	3,58824	0,264	0,609
	>50	57	3,66579		
	Total	91	3,63681		
Mean Leading	35-50	33	3,69697	0,693	0,408
	>50	57	3,80826		
	Total	90	3,76746		
Mean Controlling	35-50	33	3,79461	0,002	0,966
	>50	58	3,78933		
	Total	91	3,79124		

Mean Legal & Ethics	35-50	33	3,5	0,172	0,68
	>50	58	3,55603		
	Total	91	3,53571		
Mean Self-management	35-50	33	4,05555	0,036	0,851
	>50	58	4,03162		
	Total	91	4,0403		

	Years in current positin	N	Mean	F	Sig.
Mean Delivery of Health Care	<5	37	3,61262	0,547	0,581
	5-10	32	3,73956		
	>10	23	3,59913		
	Total	92	3,6534		
Mean Planning	<5	37	3,84235	0,274	0,761
	5-10	32	3,87494		
	>10	23	3,96374		
	Total	92	3,88403		
Mean Organising	<5	37	3,60541	0,093	0,911
	5-10	31	3,60323		
	>10	24	3,67708		
	Total	92	3,62337		
Mean Leading	<5	36	3,75	0,065	0,937
	5-10	31	3,76035		
	>10	24	3,80654		
	Total	91	3,76844		
Mean Controlling	<5	36	3,76236	0,679	0,509
	5-10	32	3,72575		
	>10	24	3,89817		
	Total	92	3,78505		
Mean Legal & Ethics	<5	36	3,52083	0,671	0,514
	5-10	32	3,45313		
	>10	24	3,64583		
	Total	92	3,52989		
Mean Self-management	<5	36	4,00922	0,156	0,856
	5-10	32	4,08856		
	>10	24	4,04867		
	Total	92	4,04711		

	Primary qualification	N	Mean	F	Sig.
Mean Delivery of Health Care	nursing	73	3,69408	0,912	0,406
	other	1	3,778		
	more than one qualification	19	3,49711		
	Total	93	3,65474		
Mean Planning	nursing	72	3,93283	1,141	0,324
	other	1	4		
	more than one qualification	20	3,7		
	Total	93	3,88348		

Mean Organising	nursing	72	3,71597	3,527	0,034
	other	1	4		
	more than one qualification	20	3,27		
	Total	93	3,62312		
Mean Leading	nursing	70	3,86429	4,546	0,013
	other	1	4		
	more than one qualification	20	3,4214		
	Total	91	3,76844		
Mean Controlling	nursing	72	3,82719	1,233	0,296
	other	1	4		
	more than one qualification	20	3,61115		
	Total	93	3,78259		
Mean Legal & Ethics	nursing	72	3,56597	0,856	0,428
	other	1	4		
	more than one qualification	20	3,4		
	Total	93	3,53495		
Mean Self-management	nursing	72	4,13889	4,327	0,016
	other	1	4		
	more than one qualification	20	3,72505		
	Total	93	4,0484		

	Formal qualification	N	Mean	F	Sig.
Mean Delivery of Health Care	none	5	3,5778	0,688	0,634
	certificate	7	3,73014		
	diploma	26	3,55135		
	degree	34	3,78435		
	other	3	3,70367		
	more than one qualification	18	3,54317		
	Total	93	3,65474		
Mean Planning	none	5	3,8666	0,767	0,576
	certificate	7	4,19029		
	diploma	26	3,80773		
	degree	34	3,84312		
	other	3	4,33333		
	more than one qualification	18	3,87956		
	Total	93	3,88348		
Mean Organising	none	5	3,78	0,274	0,926
	certificate	7	3,81429		
	diploma	27	3,61296		
	degree	33	3,6		
	other	3	3,83333		
	more than one qualification	18	3,52778		
	Total	93	3,62312		

Mean Leading	none	5	3,7428	0,221	0,952
	certificate	6	3,73817		
	diploma	27	3,75393		
	degree	32	3,79463		
	other	3	4,09533		
	more than one qualification	18	3,70639		
	Total	91	3,76844		
Mean Controlling	none	5	3,6888	0,449	0,813
	certificate	6	3,90733		
	diploma	27	3,67911		
	degree	34	3,81371		
	other	3	4,07433		
	more than one qualification	18	3,81489		
	Total	93	3,78259		
Mean Legal & Ethics	none	5	3,55	0,379	0,862
	certificate	6	3,45833		
	diploma	27	3,42593		
	degree	34	3,58824		
	other	3	3,83333		
	more than one qualification	18	3,56944		
	Total	93	3,53495		
Mean Self-management	none	5	4,1666	0,735	0,599
	certificate	6	3,77783		
	diploma	27	4,03711		
	degree	34	4,12747		
	other	3	4,33333		
	more than one qualification	18	3,92583		
	Total	93	4,0484		

	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery of Health Care	none	11	3,62636	1,137	0,347
	mentoring	2	2,9445		
	non certified courses	3	3,18533		
	in-service training (workshops, seminars, etc)	49	3,68478		
	other	1	3,889		
	more than one qualification	27	3,70789		
	Total	93	3,65474		

Mean Planning	none	11	3,42427	2,022	0,083
	mentoring	2	3,75		
	non certified courses	3	3,55533		
	in-service training (workshops, seminars, etc)	50	3,92666		
	other	1	4,5		
	more than one qualification	26	4,01915		
	Total	93	3,88348		
	Mean Organising	none	11		
mentoring	2	2,8			
non certified courses	3	2,83333			
in-service training (workshops, seminars, etc)	49	3,68673			
other	1	3,9			
more than one qualification	27	3,81852			
Total	93	3,62312			
Mean Leading	none	11	3,36373	1,827	0,116
mentoring	2	3,714			
non certified courses	3	3,23833			
in-service training (workshops, seminars, etc)	47	3,82826			
other	1	3,857			
more than one qualification	27	3,88885			
Total	91	3,76844			
Mean Controlling	none	11	3,53536		
mentoring	2	3,1665			
non certified courses	3	3,11133			
in-service training (workshops, seminars, etc)	49	3,81861			
other	1	4			
more than one qualification	27	3,93011			
Total	93	3,78259			
Mean Legal & Ethics	none	11	3,20455	2,274	0,054
mentoring	2	3			
non certified courses	3	2,91667			
in-service training (workshops, seminars, etc)	49	3,56122			
other	1	4			
more than one qualification	27	3,71296			
Total	93	3,53495			

Mean Self-management	none	11	3,92427	0,351	0,88
	mentoring	2	4,3335		
	non certified courses	3	3,83333		
	in-service training (workshops, seminars, etc)	49	4,09527		
	other	1	4		
	more than one qualification	27	4,01848		
	Total	93	4,0484		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery of Health Care	yes	64	3,64763	0,031	0,86
	no	29	3,67045		
	Total	93	3,65474		
Mean Planning	yes	64	3,8385	1,097	0,298
	no	29	3,98276		
	Total	93	3,88348		
Mean Organising	yes	64	3,56328	1,517	0,221
	no	29	3,75517		
	Total	93	3,62312		
Mean Leading	yes	62	3,74081	0,4	0,528
	no	29	3,82752		
	Total	91	3,76844		
Mean Controlling	yes	64	3,76044	0,315	0,576
	no	29	3,83148		
	Total	93	3,78259		
Mean Legal & Ethics	yes	64	3,49609	0,817	0,368
	no	29	3,62069		
	Total	93	3,53495		
Mean Self-management	yes	64	3,9948	1,789	0,184
	no	29	4,16669		
	Total	93	4,0484		

ANALYSIS OF VARIANCE - SELF-ASSESSMENT IN THE PRIVATE SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery of Health Care	male	5	3,6	0,216	0,644
	female	70	3,71907		
	Total	75	3,71113		
Mean Planning	male	5	4,1666	0,158	0,692
	female	70	4,26667		
	Total	75	4,26		
Mean Organising	male	5	4,12	0,146	0,704
	female	71	4,01479		
	Total	76	4,02171		
Mean Leading	male	5	4,2	0,186	0,667
	female	72	4,29958		
	Total	77	4,29312		
Mean Controlling	male	5	4,489	1,847	0,178
	female	72	4,20374		
	Total	77	4,22226		
Mean Legal & Ethics	male	5	4	0,183	0,67
	female	72	3,89236		
	Total	77	3,89935		
Mean Self-management	male	5	4,3666	0,143	0,707
	female	72	4,28008		
	Total	77	4,2857		

	Age	N	Mean	F	Sig.
Mean Delivery of Health Care	<35	6	3,55583	1,531	0,223
	35-50	38	3,62574		
	>50	30	3,84073		
	Total	74	3,70723		
Mean Planning	<35	6	4,52783	1,652	0,199
	35-50	37	4,15765		
	>50	31	4,32797		
	Total	74	4,25901		
Mean Organising	<35	6	4,31667	1,892	0,158
	35-50	38	3,90132		
	>50	31	4,10968		
	Total	75	4,02067		
Mean Leading	<35	6	4,40467	0,376	0,688
	35-50	38	4,24429		
	>50	32	4,3215		
	Total	76	4,28946		

Mean Controlling	<35	6	4,27783	3,394	0,039
	35-50	38	4,08476		
	>50	32	4,35775		
	Total	76	4,21495		
Mean Legal & Ethics	<35	6	4,25	2,461	0,092
	35-50	38	3,78289		
	>50	32	3,96875		
	Total	76	3,89803		
Mean Self-management	<35	6	4,41667	0,338	0,714
	35-50	38	4,28508		
	>50	32	4,23956		
	Total	76	4,2763		

	Years in current position	N	Mean	F	Sig.
Mean Delivery of Health Care	<5	30	3,65183	0,76	0,471
	5-10	25	3,82228		
	>10	20	3,66115		
	Total	75	3,71113		
Mean Planning	<5	30	4,15003	2,054	0,136
	5-10	25	4,43332		
	>10	20	4,2083		
	Total	75	4,26		
Mean Organising	<5	30	3,985	0,911	0,407
	5-10	25	4,148		
	>10	21	3,92381		
	Total	76	4,02171		
Mean Leading	<5	31	4,14745	2,36	0,101
	5-10	25	4,41136		
	>10	21	4,36738		
	Total	77	4,29312		
Mean Controlling	<5	31	4,24377	0,075	0,928
	5-10	25	4,19556		
	>10	21	4,22229		
	Total	77	4,22226		
Mean Legal & Ethics	<5	31	3,83065	0,414	0,662
	5-10	25	3,94		
	>10	21	3,95238		
	Total	77	3,89935		
Mean Self-management	<5	31	4,27419	0,135	0,874
	5-10	25	4,32664		
	>10	21	4,25395		
	Total	77	4,2857		

	Primary qualification	N	Mean	F	Sig.
Mean Delivery of Health Care	nursing	51	3,63178	1,685	0,193
	commerce/management related	1	3,889		
	more than one qualification	23	3,87935		
	Total	75	3,71113		
Mean Planning	nursing	52	4,15702	3,486	0,036
	commerce/management related	1	4,167		
	more than one qualification	22	4,50764		
	Total	75	4,26		
Mean Organising	nursing	52	3,96058	1,066	0,35
	commerce/management related	1	3,8		
	more than one qualification	23	4,16957		
	Total	76	4,02171		
Mean Leading	nursing	53	4,23175	2,472	0,091
	commerce/management related	1	3,714		
	more than one qualification	23	4,4597		
	Total	77	4,29312		
Mean Controlling	nursing	53	4,16772	1,259	0,29
	commerce/management related	1	4,222		
	more than one qualification	23	4,34796		
	Total	77	4,22226		
Mean Legal & Ethics	nursing	53	3,8066	3,337	0,041
	commerce/management related	1	3,5		
	more than one qualification	23	4,13043		
	Total	77	3,89935		
Mean Self-management	nursing	53	4,25787	0,335	0,716
	commerce/management related	1	4,167		
	more than one qualification	23	4,355		
	Total	77	4,2857		

	Formal qualification in HCM	N	Mean	F	Sig.
Mean Delivery of Health Care	none	14	3,77779	1,034	0,405
	certificate	7	3,49229		
	diploma	22	3,61109		
	degree	19	3,87721		
	other	4	3,4165		
	more than one qualification	9	3,80256		
	Total	75	3,71113		

Mean Planning	none	15	4,0556	0,666	0,651
	certificate	7	4,33329		
	diploma	22	4,34091		
	degree	19	4,28074		
	other	4	4,125		
	more than one qualification	8	4,37488		
	Total	75	4,26		
Mean Organising	none	14	3,69286	1,28	0,282
	certificate	8	4,225		
	diploma	22	4,08409		
	degree	19	4,11579		
	other	4	3,875		
	more than one qualification	9	4,06667		
	Total	76	4,02171		
Mean Leading	none	15	4,03807	1,258	0,292
	certificate	8	4,46413		
	diploma	22	4,39605		
	degree	19	4,30084		
	other	4	4,17875		
	more than one qualification	9	4,34911		
	Total	77	4,29312		
Mean Controlling	none	15	4,03707	1,028	0,408
	certificate	8	4,30563		
	diploma	22	4,23236		
	degree	19	4,36853		
	other	4	4,08325		
	more than one qualification	9	4,18511		
	Total	77	4,22226		
Mean Legal & Ethics	none	15	4,03333	0,576	0,718
	certificate	8	3,875		
	diploma	22	3,82955		
	degree	19	3,82895		
	other	4	3,75		
	more than one qualification	9	4,08333		
	Total	77	3,89935		
Mean Self-management	none	15	4,14453	1,045	0,398
	certificate	8	4,60413		
	diploma	22	4,34086		
	degree	19	4,23679		
	other	4	4,25		
	more than one qualification	9	4,22222		
	Total	77	4,2857		

	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery of Health Care	none	7	4,01586	2,104	0,075
	mentoring	3	3,18533		
	non certified courses	3	4,111		
	in-service training (workshops, seminars, etc)	27	3,64607		
	other	1	2,778		
	more than one qualification	34	3,73862		
	Total	75	3,71113		
Mean Planning	none	7	4,16657	3,461	0,008
	mentoring	3	3,83333		
	non certified courses	3	4,5		
	in-service training (workshops, seminars, etc)	27	4,02474		
	other	1	3,833		
	more than one qualification	34	4,49509		
	Total	75	4,26		
Mean Organising	none	7	3,90714	1,579	0,177
	mentoring	3	3,5		
	non certified courses	3	4,36667		
	in-service training (workshops, seminars, etc)	27	3,89259		
	other	1	4,7		
	more than one qualification	35	4,14		
	Total	76	4,02171		
Mean Leading	none	7	4,38771	1,68	0,151
	mentoring	3	3,57167		
	non certified courses	3	4,52367		
	in-service training (workshops, seminars, etc)	27	4,24341		
	other	1	4,429		
	more than one qualification	36	4,34914		
	Total	77	4,29312		
Mean Controlling	none	7	4,23814	0,499	0,776
	mentoring	3	4,18533		
	non certified courses	3	4,33333		
	in-service training (workshops, seminars, etc)	27	4,12348		
	other	1	4		
	more than one qualification	36	4,29325		
	Total	77	4,22226		

Mean Legal & Ethics	none	7	3,64286	1,22	0,309
	mentoring	3	3,66667		
	non certified courses	3	4,16667		
	in-service training (workshops, seminars, etc)	27	3,84259		
	other	1	3,25		
	more than one qualification	36	4,00694		
	Total	77	3,89935		
Mean Self-management	none	7	4,47614	0,758	0,583
	mentoring	3	3,889		
	non certified courses	3	4,27767		
	in-service training (workshops, seminars, etc)	27	4,22222		
	other	1	4,5		
	more than one qualification	36	4,32406		
	Total	77	4,2857		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery of Health Care	yes	42	3,74079	0,274	0,602
	no	33	3,67339		
	Total	75	3,71113		
Mean Planning	yes	42	4,32938	1,585	0,212
	no	33	4,1717		
	Total	75	4,26		
Mean Organising	yes	43	4,01047	0,035	0,852
	no	33	4,03636		
	Total	76	4,02171		
Mean Leading	yes	43	4,26902	0,227	0,635
	no	34	4,32359		
	Total	77	4,29312		
Mean Controlling	yes	43	4,21453	0,028	0,869
	no	34	4,23203		
	Total	77	4,22226		
Mean Legal & Ethics	yes	43	3,9186	0,122	0,728
	no	34	3,875		
	Total	77	3,89935		
Mean Self-management	yes	43	4,25195	0,454	0,503
	no	34	4,32838		
	Total	77	4,2857		

ANALYSIS OF VARIANCE - PERCEIVED IMPORTANCE IN THE PUBLIC AND PRIVATE SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery_Imp	male	8	4,52778	0,745	0,389
	female	162	4,33608		
	Total	170	4,3451		
Mean Planning_Imp	male	8	4,72917	1,005	0,317
	female	163	4,51892		
	Total	171	4,52875		
Mean Organising_Imp	male	8	4,7125	1,145	0,286
	female	161	4,49907		
	Total	169	4,50917		
Mean Leading_Imp	male	8	4,80357	1,548	0,215
	female	163	4,56004		
	Total	171	4,57143		
Mean Controlling_Imp	male	8	4,75	0,545	0,461
	female	164	4,59587		
	Total	172	4,60304		
Mean Legal Ethical_Imp	male	8	4,71875	1,101	0,296
	female	164	4,49543		
	Total	172	4,50581		
Mean Self-Mgt_Imp	male	8	4,70833	0,893	0,346
	female	164	4,53557		
	Total	172	4,5436		



	Age	N	Mean	F	Sig.
Mean Delivery_Imp	<35	6	4,03704	0,771	0,464
	35-50	72	4,36111		
	>50	90	4,34198		
	Total	168	4,33929		
Mean Planning_Imp	<35	6	4,63889	0,218	0,805
	35-50	72	4,49653		
	>50	91	4,53663		
	Total	169	4,52318		
Mean Organising_Imp	<35	6	4,56667	0,062	0,94
	35-50	71	4,49296		
	>50	90	4,51278		
	Total	167	4,50629		
Mean Leading_Imp	<35	6	4,71429	0,633	0,532
	35-50	72	4,60714		
	>50	91	4,52904		
	Total	169	4,56889		

Mean Controlling_Imp	<35	6	4,62963	0,104	0,901
	35-50	72	4,57485		
	>50	92	4,61473		
	Total	170	4,59837		
Mean Legal Ethical_Imp	<35	6	4,58333	0,375	0,688
	35-50	72	4,54167		
	>50	92	4,46739		
	Total	170	4,50294		
Mean Self-Mgt_Imp	<35	6	4,61111	0,077	0,926
	35-50	72	4,54861		
	>50	92	4,53261		
	Total	170	4,54216		

	Years in current position	N	Mean	F	Sig.
Mean Delivery_Imp	<5	65	4,32479	0,598	0,551
	5-10	58	4,41379		
	>10	47	4,28842		
	Total	170	4,3451		
Mean Planning_Imp	<5	67	4,50871	1,134	0,324
	5-10	57	4,61696		
	>10	47	4,45035		
	Total	171	4,52875		
Mean Organising_Imp	<5	67	4,51716	0,014	0,986
	5-10	55	4,50727		
	>10	47	4,5		
	Total	169	4,50917		
Mean Leading_Imp	<5	67	4,60128	0,267	0,766
	5-10	57	4,57393		
	>10	47	4,52584		
	Total	171	4,57143		
Mean Controlling_Imp	<5	67	4,59121	0,025	0,975
	5-10	58	4,60728		
	>10	47	4,61466		
	Total	172	4,60304		
Mean Legal Ethical_Imp	<5	67	4,48881	0,208	0,812
	5-10	58	4,48707		
	>10	47	4,55319		
	Total	172	4,50581		
Mean Self-Mgt_Imp	<5	67	4,54726	0,007	0,993
	5-10	58	4,53736		
	>10	47	4,5461		
	Total	172	4,5436		

	Primary qualification	N	Mean	F	Sig.
Mean Delivery_Imp	nursing	124	4,4095	1,966	0,121
	commerce/management related	1	3,66667		
	other	1	4,55556		
	more than one qualification	45	4,18519		
	Total	171	4,34698		
Mean Planning_Imp	nursing	125	4,58067	1,782	0,152
	commerce/management related	1	3,66667		
	other	1	4,66667		
	more than one qualification	45	4,40741		
	Total	172	4,53052		
Mean Organising_Imp	nursing	124	4,55282	1,215	0,306
	commerce/management related	1	4		
	other	1	4,6		
	more than one qualification	44	4,39318		
	Total	170	4,50853		
Mean Leading_Imp	nursing	125	4,63086	1,958	0,122
	commerce/management related	1	4,14286		
	other	1	4,14286		
	more than one qualification	45	4,43175		
	Total	172	4,57309		
Mean Controlling_Imp	nursing	126	4,65653	1,548	0,204
	commerce/management related	1	4,11111		
	other	1	4,88889		
	more than one qualification	45	4,46667		
	Total	173	4,60533		
Mean Legal Ethical_Imp	nursing	126	4,52976	0,324	0,808
	commerce/management related	1	4,25		
	other	1	4,5		
	more than one qualification	45	4,43889		
	Total	173	4,50434		
Mean Self-Mgt_Imp	nursing	126	4,58466	1,875	0,136
	commerce/management related	1	3,66667		
	other	1	4,33333		
	more than one qualification	45	4,45185		
	Total	173	4,54335		

	Formal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	20	4,35556	0,394	0,852
	certificate	14	4,2619		
	diploma	48	4,44213		
	degree	53	4,29769		
	other	7	4,2381		
	more than one qualification	29	4,341		
	Total	171	4,34698		
Mean Planning_Imp	none	21	4,51587	0,606	0,696
	certificate	14	4,57143		
	diploma	49	4,62755		
	degree	52	4,42949		
	other	7	4,52381		
	more than one qualification	29	4,54023		
	Total	172	4,53052		
Mean Organising_Imp	none	20	4,54	0,632	0,675
	certificate	14	4,57857		
	diploma	49	4,58265		
	degree	52	4,40962		
	other	7	4,4		
	more than one qualification	28	4,53214		
	Total	170	4,50853		
Mean Leading_Imp	none	20	4,60714	0,726	0,605
	certificate	14	4,66327		
	diploma	49	4,66764		
	degree	53	4,49596		
	other	7	4,53061		
	more than one qualification	29	4,49754		
	Total	172	4,57309		
Mean Controlling_Imp	none	21	4,63492	0,4	0,849
	certificate	14	4,73016		
	diploma	49	4,6576		
	degree	53	4,55765		
	other	7	4,5873		
	more than one qualification	29	4,52682		
	Total	173	4,60533		
Mean Legal Ethical_Imp	none	21	4,57143	0,688	0,633
	certificate	14	4,67857		
	diploma	49	4,51531		
	degree	53	4,39623		
	other	7	4,53571		
	more than one qualification	29	4,5431		
	Total	173	4,50434		

Mean Self-Mgt_Imp	none	21	4,55556	0,902	0,481
	certificate	14	4,63095		
	diploma	49	4,64626		
	degree	53	4,45597		
	other	7	4,45238		
	more than one qualification	29	4,5		
	Total	173	4,54335		

	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	17	4,26144	0,902	0,481
	mentoring	6	4,55556		
	non certified courses	6	4,24074		
	in-service training (workshops, seminars, etc)	77	4,41847		
	other	2	3,77778		
	more than one qualification	63	4,29101		
	Total	171	4,34698		
Mean Planning_Imp	none	17	4,22059	1,52	0,186
	mentoring	6	4,86111		
	non certified courses	6	4,52778		
	in-service training (workshops, seminars, etc)	77	4,57143		
	other	2	4,33333		
	more than one qualification	64	4,53906		
	Total	172	4,53052		
Mean Organising_Imp	none	16	4,28125	0,869	0,503
	mentoring	6	4,76667		
	non certified courses	6	4,56667		
	in-service training (workshops, seminars, etc)	77	4,53312		
	other	2	4,4		
	more than one qualification	63	4,50952		
	Total	170	4,50853		
Mean Leading_Imp	none	17	4,36975	0,596	0,703
	mentoring	6	4,71429		
	non certified courses	6	4,54762		
	in-service training (workshops, seminars, etc)	77	4,59369		
	other	2	4,57143		
	more than one qualification	64	4,59152		
	Total	172	4,57309		

Mean Controlling_Imp	none	17	4,34641	1,145	0,338
	mentoring	6	4,87037		
	non certified courses	6	4,62963		
	in-service training (workshops, seminars, etc)	78	4,65741		
	other	2	4,38889		
	more than one qualification	64	4,59028		
	Total	173	4,60533		
Mean Legal Ethical_Imp	none	17	4,22059	1,034	0,399
	mentoring	6	4,54167		
	non certified courses	6	4,70833		
	in-service training (workshops, seminars, etc)	78	4,54167		
	other	2	4,375		
	more than one qualification	64	4,51563		
	Total	173	4,50434		
Mean Self-Mgt_Imp	none	17	4,37255	0,543	0,744
	mentoring	6	4,63889		
	non certified courses	6	4,47222		
	in-service training (workshops, seminars, etc)	78	4,5812		
	other	2	4,58333		
	more than one qualification	64	4,53906		
	Total	173	4,54335		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery_Imp	yes	108	4,37963	0,835	0,362
	no	63	4,29101		
	Total	171	4,34698		
Mean Planning_Imp	yes	109	4,54817	0,276	0,6
	no	63	4,5		
	Total	172	4,53052		
Mean Organising_Imp	yes	107	4,54579	1,331	0,25
	no	63	4,44524		
	Total	170	4,50853		
Mean Leading_Imp	yes	109	4,58716	0,201	0,655
	no	63	4,54875		
	Total	172	4,57309		
Mean Controlling_Imp	yes	109	4,63456	0,761	0,384
	no	64	4,55556		
	Total	173	4,60533		

Mean Legal Ethical_Imp	yes	109	4,54587	1,481	0,225
	no	64	4,43359		
	Total	173	4,50434		
Mean Self-Mgt_Imp	yes	109	4,52752	0,29	0,591
	no	64	4,57031		
	Total	173	4,54335		

	Sector	N	Mean	F	Sig.
Mean Delivery_Imp	public sector	91	4,5116	7,593	0,001
	private sector	76	4,15936		
	both sectors	4	4,16667		
	Total	171	4,34698		
Mean Planning_Imp	public sector	92	4,56341	0,572	0,565
	private sector	76	4,50329		
	both sectors	4	4,29167		
	Total	172	4,53052		
Mean Organising_Imp	public sector	90	4,57611	2,028	0,135
	private sector	76	4,44737		
	both sectors	4	4,15		
	Total	170	4,50853		
Mean Leading_Imp	public sector	92	4,62267	2,293	0,104
	private sector	76	4,53947		
	both sectors	4	4,07143		
	Total	172	4,57309		
Mean Controlling_Imp	public sector	92	4,64432	1,186	0,308
	private sector	77	4,57864		
	both sectors	4	4,22222		
	Total	173	4,60533		
Mean Legal Ethical_Imp	public sector	92	4,54891	1,001	0,37
	private sector	77	4,46753		
	both sectors	4	4,1875		
	Total	173	4,50434		
Mean Self-Mgt_Imp	public sector	92	4,57971	1,232	0,294
	private sector	77	4,51732		
	both sectors	4	4,20833		
	Total	173	4,54335		

ANALYSIS OF VARIANCE - PERCEIVED IMPORTANCE IN THE PUBLIC SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery_Imp	male	3	4,963	2,254	0,137
	female	87	4,49429		
	Total	90	4,50991		
Mean Planning_Imp	male	3	4,94433	1,461	0,23
	female	88	4,54732		
	Total	91	4,56041		
Mean Organising_Imp	male	3	4,93333	1,966	0,164
	female	86	4,5657		
	Total	89	4,57809		
Mean Leading_Imp	male	3	5	1,888	0,173
	female	88	4,6071		
	Total	91	4,62005		
Mean Controlling_Imp	male	3	5	1,432	0,235
	female	88	4,62814		
	Total	91	4,6404		
Mean Legal Ethical_Imp	male	3	4,91667	1,619	0,207
	female	88	4,53977		
	Total	91	4,5522		
Mean Self-Mgt_Imp	male	3	4,94433	2,292	0,134
	female	88	4,56815		
	Total	91	4,58055		

	Age	N	Mean	F	Sig.
Mean Delivery_Imp	35-50	33	4,52867	0,085	0,771
	>50	56	4,49407		
	Total	89	4,5069		
Mean Planning_Imp	35-50	33	4,54033	0,038	0,847
	>50	57	4,56432		
	Total	90	4,55552		
Mean Organising_Imp	35-50	32	4,57188	0,006	0,94
	>50	56	4,57946		
	Total	88	4,5767		
Mean Leading_Imp	35-50	33	4,63633	0,064	0,801
	>50	57	4,60898		
	Total	90	4,61901		
Mean Controlling_Imp	35-50	33	4,64139	0,005	0,946
	>50	57	4,63351		
	Total	90	4,6364		

Mean Legal Ethical_Imp	35-50	33	4,59091	0,29	0,592
	>50	57	4,5307		
	Total	90	4,55278		
Mean Self-Mgt_Imp	35-50	33	4,59597	0,045	0,832
	>50	57	4,57596		
	Total	90	4,5833		

	Years in current position	N	Mean	F	Sig.
Mean Delivery_Imp	<5	34	4,46729	0,24	0,787
	5-10	32	4,55913		
	>10	24	4,50467		
	Total	90	4,50991		
Mean Planning_Imp	<5	35	4,50949	0,289	0,75
	5-10	32	4,61453		
	>10	24	4,5625		
	Total	91	4,56041		
Mean Organising_Imp	<5	35	4,55286	0,089	0,915
	5-10	30	4,59333		
	>10	24	4,59583		
	Total	89	4,57809		
Mean Leading_Imp	<5	35	4,60811	0,08	0,923
	5-10	32	4,60713		
	>10	24	4,65471		
	Total	91	4,62005		
Mean Controlling_Imp	<5	35	4,6238	0,167	0,847
	5-10	32	4,61806		
	>10	24	4,69438		
	Total	91	4,6404		
Mean Legal Ethical_Imp	<5	35	4,47857	1,262	0,288
	5-10	32	4,53125		
	>10	24	4,6875		
	Total	91	4,5522		
Mean Self-Mgt_Imp	<5	35	4,57146	0,631	0,534
	5-10	32	4,53116		
	>10	24	4,65967		
	Total	91	4,58055		

	Primary qualification	N	Mean	F	Sig.
Mean Delivery_Imp	nursing	70	4,54923	0,805	0,45
	other	1	4,556		
	more than one qualification	20	4,37785		
	Total	91	4,51164		

Mean Planning_Imp	nursing	71	4,61966	1,754	0,179
	other	1	4,667		
	more than one qualification	20	4,35835		
	Total	92	4,56337		
Mean Organising_Imp	nursing	69	4,62391	1,812	0,17
	other	1	4,6		
	more than one qualification	20	4,41		
	Total	90	4,57611		
Mean Leading_Imp	nursing	71	4,68407	2,736	0,07
	other	1	4,143		
	more than one qualification	20	4,4285		
	Total	92	4,62263		
Mean Controlling_Imp	nursing	71	4,70968	2,899	0,06
	other	1	4,889		
	more than one qualification	20	4,4		
	Total	92	4,6443		
Mean Legal Ethical_Imp	nursing	71	4,58099	0,631	0,534
	other	1	4,5		
	more than one qualification	20	4,4375		
	Total	92	4,54891		
Mean Self-Mgt_Imp	nursing	71	4,60325	0,557	0,575
	other	1	4,333		
	more than one qualification	20	4,5083		
	Total	92	4,57967		

	Formal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	5	4,422	0,264	0,931
	certificate	6	4,57417		
	diploma	25	4,54224		
	degree	34	4,54582		
	other	3	4,59267		
	more than one qualification	18	4,39511		
	Total	91	4,51164		
Mean Planning_Imp	none	5	4,5332	0,144	0,981
	certificate	6	4,5		
	diploma	26	4,60254		
	degree	34	4,54894		
	other	3	4,77767		
	more than one qualification	18	4,52783		
	Total	92	4,56337		

Mean Organising_Imp	none	4	4,475	0,166	0,974
	certificate	6	4,51667		
	diploma	26	4,63654		
	degree	33	4,56061		
	other	3	4,6		
	more than one qualification	18	4,55556		
	Total	90	4,57611		
Mean Leading_Imp	none	5	4,6286	0,273	0,927
	certificate	6	4,59517		
	diploma	26	4,69227		
	degree	34	4,63021		
	other	3	4,619		
	more than one qualification	18	4,51583		
	Total	92	4,62263		
Mean Controlling_Imp	none	5	4,689	0,249	0,939
	certificate	6	4,6295		
	diploma	26	4,65377		
	degree	34	4,683		
	other	3	4,778		
	more than one qualification	18	4,52778		
	Total	92	4,6443		
Mean Legal Ethical_Imp	none	5	4,5	0,057	0,998
	certificate	6	4,54167		
	diploma	26	4,56731		
	degree	34	4,52941		
	other	3	4,66667		
	more than one qualification	18	4,55556		
	Total	92	4,54891		
Mean Self-Mgt_Imp	none	5	4,4668	0,365	0,871
	certificate	6	4,6945		
	diploma	26	4,63454		
	degree	34	4,5735		
	other	3	4,611		
	more than one qualification	18	4,49994		
	Total	92	4,57967		



	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	10	4,3668	1,315	0,265
	mentoring	2	4,889		
	non certified courses	3	4,14833		
	in-service training (workshops, seminars, etc)	48	4,6181		
	other	1	4,333		
	more than one qualification	27	4,39504		
	Total	91	4,51164		
Mean Planning_Imp	none	10	4,2331	2,074	0,076
	mentoring	2	5		
	non certified courses	3	4,167		
	in-service training (workshops, seminars, etc)	49	4,69386		
	other	1	4,5		
	more than one qualification	27	4,46293		
	Total	92	4,56337		
Mean Organising_Imp	none	9	4,37778	1,147	0,342
	mentoring	2	4,8		
	non certified courses	3	4,3		
	in-service training (workshops, seminars, etc)	48	4,65104		
	other	1	4,2		
	more than one qualification	27	4,53704		
	Total	90	4,57611		
Mean Leading_Imp	none	10	4,3714	1,389	0,236
	mentoring	2	4,857		
	non certified courses	3	4,333		
	in-service training (workshops, seminars, etc)	49	4,71716		
	other	1	4,286		
	more than one qualification	27	4,57141		
	Total	92	4,62263		
Mean Controlling_Imp	none	10	4,4	1,931	0,097
	mentoring	2	5		
	non certified courses	3	4,296		
	in-service training (workshops, seminars, etc)	49	4,76984		
	other	1	4,111		
	more than one qualification	27	4,53907		
	Total	92	4,6443		

Mean Legal Ethical_Imp	none	10	4,25	1,514	0,194
	mentoring	2	4,75		
	non certified courses	3	4,41667		
	in-service training (workshops, seminars, etc)	49	4,64796		
	other	1	4		
	more than one qualification	27	4,5		
	Total	92	4,54891		
Mean Self-Mgt_Imp	none	10	4,4668	0,407	0,843
	mentoring	2	4,6665		
	non certified courses	3	4,44433		
	in-service training (workshops, seminars, etc)	49	4,62582		
	other	1	4,333		
	more than one qualification	27	4,55548		
	Total	92	4,57967		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery_Imp	yes	62	4,55027	1,024	0,314
	no	29	4,42903		
	Total	91	4,51164		
Mean Planning_Imp	yes	63	4,55814	0,017	0,896
	no	29	4,57472		
	Total	92	4,56337		
Mean Organising_Imp	yes	61	4,59344	0,283	0,596
	no	29	4,53966		
	Total	90	4,57611		
Mean Leading_Imp	yes	63	4,6077	0,186	0,667
	no	29	4,65507		
	Total	92	4,62263		
Mean Controlling_Imp	yes	63	4,64814	0,01	0,919
	no	29	4,63597		
	Total	92	4,6443		
Mean Legal Ethical_Imp	yes	63	4,54762	0,001	0,971
	no	29	4,55172		
	Total	92	4,54891		
Mean Self-Mgt_Imp	yes	63	4,56084	0,392	0,533
	no	29	4,62059		
	Total	92	4,57967		

ANALYSIS OF VARIANCE - PERCEIVED IMPORTANCE IN THE PRIVATE SECTOR

	Gender	N	Mean	F	Sig.
Mean Delivery_Imp	male	5	4,2664	0,149	0,701
	female	71	4,1518		
	Total	76	4,15934		
Mean Planning_Imp	male	5	4,6	0,143	0,706
	female	71	4,49646		
	Total	76	4,50328		
Mean Organising_Imp	male	5	4,58	0,233	0,63
	female	71	4,43803		
	Total	76	4,44737		
Mean Leading_Imp	male	5	4,6856	0,338	0,563
	female	71	4,52914		
	Total	76	4,53943		
Mean Controlling_Imp	male	5	4,6	0,006	0,936
	female	72	4,57721		
	Total	77	4,57869		
Mean Legal Ethical_Imp	male	5	4,6	0,209	0,649
	female	72	4,45833		
	Total	77	4,46753		
Mean Self-Mgt_Imp	male	5	4,5666	0,04	0,842
	female	72	4,51383		
	Total	77	4,51726		

	Age	N	Mean	F	Sig.
Mean Delivery_Imp	<35	6	4,03683	0,337	0,715
	35-50	38	4,20755		
	>50	31	4,10042		
	Total	75	4,14961		
Mean Planning_Imp	<35	6	4,63883	0,369	0,692
	35-50	38	4,44516		
	>50	31	4,53226		
	Total	75	4,49665		
Mean Organising_Imp	<35	6	4,56667	0,148	0,863
	35-50	38	4,41579		
	>50	31	4,45161		
	Total	75	4,44267		
Mean Leading_Imp	<35	6	4,71417	0,636	0,532
	35-50	38	4,57137		
	>50	31	4,45623		
	Total	75	4,5352		

Mean Controlling_Imp	<35	6	4,6295	0,413	0,663
	35-50	38	4,50882		
	>50	32	4,63897		
	Total	76	4,57314		
Mean Legal Ethical_Imp	<35	6	4,58333	0,231	0,794
	35-50	38	4,48684		
	>50	32	4,40625		
	Total	76	4,46053		
Mean Self-Mgt_Imp	<35	6	4,611	0,099	0,906
	35-50	38	4,49997		
	>50	32	4,50513		
	Total	76	4,51091		

	Years in position	N	Mean	F	Sig.
Mean Delivery_Imp	<5	30	4,1518	0,26	0,772
	5-10	25	4,22668		
	>10	21	4,08995		
	Total	76	4,15934		
Mean Planning_Imp	<5	31	4,49197	0,971	0,383
	5-10	24	4,62492		
	>10	21	4,38095		
	Total	76	4,50328		
Mean Organising_Imp	<5	31	4,46452	0,041	0,96
	5-10	24	4,41667		
	>10	21	4,45714		
	Total	76	4,44737		
Mean Leading_Imp	<5	31	4,58065	0,2	0,819
	5-10	24	4,54158		
	>10	21	4,47614		
	Total	76	4,53943		
Mean Controlling_Imp	<5	31	4,54484	0,082	0,922
	5-10	25	4,60892		
	>10	21	4,59267		
	Total	77	4,57869		
Mean Legal Ethical_Imp	<5	31	4,48387	0,032	0,969
	5-10	25	4,44		
	>10	21	4,47619		
	Total	77	4,46753		
Mean Self-Mgt_Imp	<5	31	4,51071	0,086	0,918
	5-10	25	4,5532		
	>10	21	4,48414		
	Total	77	4,51726		

	Primary qualification	N	Mean	F	Sig.
Mean Delivery_Imp	nursing	52	4,21577	0,814	0,447
	commerce/management related	1	3,667		
	more than one qualification	23	4,05317		
	Total	76	4,15934		
Mean Planning_Imp	nursing	52	4,52725	1,065	0,35
	commerce/management related	1	3,667		
	more than one qualification	23	4,48543		
	Total	76	4,50328		
Mean Organising_Imp	nursing	53	4,46792	0,296	0,744
	commerce/management related	1	4		
	more than one qualification	22	4,41818		
	Total	76	4,44737		
Mean Leading_Imp	nursing	52	4,57962	0,538	0,586
	commerce/management related	1	4,143		
	more than one qualification	23	4,46583		
	Total	76	4,53943		
Mean Controlling_Imp	nursing	53	4,59125	0,301	0,741
	commerce/management related	1	4,111		
	more than one qualification	23	4,57009		
	Total	77	4,57869		
Mean Legal Ethical_Imp	nursing	53	4,4717	0,053	0,949
	commerce/management related	1	4,25		
	more than one qualification	23	4,46739		
	Total	77	4,46753		
Mean Self-Mgt_Imp	nursing	53	4,56283	1,473	0,236
	commerce/management related	1	3,667		
	more than one qualification	23	4,44922		
	Total	77	4,51726		

	Formal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	14	4,30957	1,723	0,141
	certificate	8	4,02775		
	diploma	22	4,32823		
	degree	19	3,85384		
	other	4	3,972		
	more than one qualification	9	4,358		
	Total	76	4,15934		

Mean Planning_Imp	none	15	4,47773	1,726	0,14
	certificate	8	4,625		
	diploma	22	4,66286		
	degree	18	4,20372		
	other	4	4,33325		
	more than one qualification	9	4,72222		
	Total	76	4,50328		
Mean Organising_Imp	none	15	4,53333	1,439	0,221
	certificate	8	4,625		
	diploma	22	4,54091		
	degree	19	4,14737		
	other	4	4,25		
	more than one qualification	8	4,6625		
	Total	76	4,44737		
Mean Leading_Imp	none	14	4,57143	1,405	0,233
	certificate	8	4,71425		
	diploma	22	4,65582		
	degree	19	4,25558		
	other	4	4,46425		
	more than one qualification	9	4,68244		
	Total	76	4,53943		
Mean Controlling_Imp	none	15	4,6	1,042	0,4
	certificate	8	4,80563		
	diploma	22	4,68191		
	degree	19	4,33342		
	other	4	4,44425		
	more than one qualification	9	4,66667		
	Total	77	4,57869		
Mean Legal Ethical_Imp	none	15	4,56667	1,497	0,202
	certificate	8	4,78125		
	diploma	22	4,46591		
	degree	19	4,15789		
	other	4	4,4375		
	more than one qualification	9	4,69444		
	Total	77	4,46753		
Mean Self-Mgt_Imp	none	15	4,5666	1,473	0,21
	certificate	8	4,58325		
	diploma	22	4,67418		
	degree	19	4,24558		
	other	4	4,33325		
	more than one qualification	9	4,64811		
	Total	77	4,51726		

	Informal qualification in HCM	N	Mean	F	Sig.
Mean Delivery_Imp	none	7	4,11129	0,792	0,559
	mentoring	3	4,29633		
	non certified courses	3	4,33333		
	in-service training (workshops, seminars, etc)	27	4,05352		
	other	1	3,222		
	more than one qualification	35	4,25071		
	Total	76	4,15934		
Mean Planning_Imp	none	7	4,20229	1,62	0,166
	mentoring	3	4,72233		
	non certified courses	3	4,889		
	in-service training (workshops, seminars, etc)	26	4,33977		
	other	1	4,167		
	more than one qualification	36	4,63883		
	Total	76	4,50328		
Mean Organising_Imp	none	7	4,15714	0,91	0,48
	mentoring	3	4,7		
	non certified courses	3	4,83333		
	in-service training (workshops, seminars, etc)	27	4,33704		
	other	1	4,6		
	more than one qualification	35	4,53143		
	Total	76	4,44737		
Mean Leading_Imp	none	7	4,36729	0,806	0,549
	mentoring	3	4,524		
	non certified courses	3	4,762		
	in-service training (workshops, seminars, etc)	26	4,40108		
	other	1	4,857		
	more than one qualification	36	4,64675		
	Total	76	4,53943		
Mean Controlling_Imp	none	7	4,27	1,022	0,411
	mentoring	3	4,77767		
	non certified courses	3	4,963		
	in-service training (workshops, seminars, etc)	27	4,46507		
	other	1	4,667		
	more than one qualification	36	4,67286		
	Total	77	4,57869		

Mean Legal Ethical_Imp	none	7	4,17857	1,006	0,42
	mentoring	3	4,25		
	non certified courses	3	5		
	in-service training (workshops, seminars, etc)	27	4,37037		
	other	1	4,75		
	more than one qualification	36	4,5625		
	Total	77	4,46753		
Mean Self-Mgt_Imp	none	7	4,238	0,449	0,813
	mentoring	3	4,55533		
	non certified courses	3	4,5		
	in-service training (workshops, seminars, etc)	27	4,50619		
	other	1	4,833		
	more than one qualification	36	4,56936		
	Total	77	4,51726		

	Intention to attend training	N	Mean	F	Sig.
Mean Delivery_Imp	yes	43	4,11884	0,395	0,531
	no	33	4,21212		
	Total	76	4,15934		
Mean Planning_Imp	yes	43	4,52126	0,091	0,763
	no	33	4,47985		
	Total	76	4,50328		
Mean Organising_Imp	yes	43	4,47907	0,247	0,621
	no	33	4,40606		
	Total	76	4,44737		
Mean Leading_Imp	yes	43	4,57142	0,299	0,586
	no	33	4,49776		
	Total	76	4,53943		
Mean Controlling_Imp	yes	43	4,61502	0,342	0,561
	no	34	4,53274		
	Total	77	4,57869		
Mean Legal Ethical_Imp	yes	43	4,54651	1,373	0,245
	no	34	4,36765		
	Total	77	4,46753		
Mean Self-Mgt_Imp	yes	43	4,47281	0,593	0,444
	no	34	4,57347		
	Total	77	4,51726		