NURSING LEADERSHIP STYLE AND MENTAL HEALTH OUTCOME OF NURSE IN TAIWAN

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Abstract

The present thesis report research on the role of leadership style related to the quality of nurses' working lives in Taiwanese hospitals. It begins by focusing on the mental health of nursing workforces and questions the applicability of leadership styles employed in different ownership of health care organisations. There is very little literature on this issue and knowledge of how such hospitals function is not clear. The thesis addresses the influences of nursing leadership style at both the individual and organisational levels examining the perception of nurses and developing a research model using Structural Equation Model (SEM). Both the leader's perspective and subordinate's viewpoint were measured. Two studies were conducted which illustrated the perception of leadership style in Taiwanese healthcare settings. The first study was designed as the qualitative study which used in depth interviews with 21 representatives to explore the current organisation status of hospitals and attitudes towards and interpretation of leadership.

Study Two was a quantitative study which was informed by the results of Study One and 651 employees participated in a questionnaire survey. This thesis proposed a model of the relationships among the key variables. Analysis of the data based on this model revealed that transformational leadership style contributed significantly to supervisor support. Supervisor support was an important mediator variable that explained the relationship between transformational leadership and job satisfaction and organisational commitment. In addition, the effects of transformational leadership style on the general health well-being of nurses were buffered by job satisfaction and organisational commitment. Organisational commitment was the strongest factor related to the general health well-being of Taiwanese nurses than job satisfaction. The study highlighted the influences of certain aspects of leadership such as mental health outcomes. Leadership is a complex process and may diffuse throughout an organisation. This thesis makes a useful contribution to the literature on the mental health well-being of nurses and provides a comprehensive background of a Taiwanese approach to nursing leadership research.

Acknowledgements

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PREFACE

With growing academic and professional interest, leadership has become is increasingly important in an organisation's attempt to adapt to an intensive working environment. It has been well documented that leadership has a strong influence on employees' psychological and physical health as well as affecting organisational efficiency and productivity (Aust, Rugulies, Finken, & Jensen, 2010; Singh, Syal, Grady, & Korkmaz, 2010; Tourangeau, Cranley, Spence Laschinger, & Pachis, 2010). An organisation's leadership style may reduce poor psychological effects and create a more positive workplace environment (Shirey, 2006). In contrast, poor leadership can adversely impact on organisational work cultures. Thus, leadership is a valuable issue to consider and examine in the context of organisational health/organisational management.

The nursing profession is faced constantly with an increasing shortage of employees worldwide (Buerhaus, Auerbach, & Staiger, 2009; Kingma, 2001; Ross, Polsky, & Sochalski, 2005). The health care profession differs in comparison to other professions in terms of shift work types, gender balance, a majority of female workers, and high rates of work accidents and turnover. With the complexity of nursing practice and high occupational injury, nurses can be seen as a high risk group of psychological distress. Thus, attention needs to be drawn to this specific type of work.

As a result, this thesis focuses on the nursing profession in the context of work related stress. The majority of nurses work in hospitals. Thus, much research tends to be conducted in a hospital setting. Although this research interest can be found across many countries worldwide, the main focus of this research has been on the relationship between leadership and health outcomes such as job satisfaction and organisational commitment (Begat, Ellefsen, & Severinsson, 2005; Chiok Foong Loke, 2001; Leach, 2005; Malloy & Penprase, 2010; Watson, 2009). Apart from this, many factors have been considered as possible contributors to improving nurse's mental health from enhancing leadership style (Dierckx de Casterle, Willemse, Verschueren, & Milisen, 2008; Holm & Severinsson, 2010). Leadership is a complex and interactive process (Gibson, Cooper, & Conger, 2009). It has been suggested to be one of the major predictors of the quality of work life of nurses (Vagharseyyedin, Vanaki,

& Mohammadi, 2010) and one of the major sources of distress for nurses for many years. However, less often studies are conducted to examine the relationship among these factors, particularly in Taiwan. Facing this challenge, this thesis aims to explore nursing leadership in Taiwan and to develop a co-ordinated approach to evaluate how nursing leadership influences the mental health outcomes of nurses.

Research Questions

With limited empirical findings and taking concerning the influential factors in nursing leadership as a start point, research questions were carried out from five dimensions including transformational leadership style, job content, organisational commitment, job satisfaction, and general health well-being. The research questions were as follows:

1. Would nursing leadership styles have positive/negative influences on general health well-being of nurses?
2. Does a relationship exist among nursing leadership styles, job nature, job satisfaction, and organisational commitment?

Aims and Focus of the thesis

The main aims of the thesis are to:

1. Exploring the leadership style of nursing in three kinds of hospital ownership and investigate how internal legislation relates to nurses' mental health.
2. Identify the key issues of nursing leadership on the basis of views from the hospital's representatives for use in a work-related mental health survey in Taiwanese nurses.
3. Examine the relationship between each variable affecting nurse leadership such as transformational leadership style, job content, job satisfaction, organisational commitment, and general health well-being.
4. Create a conceptual model to explore the relations among the variables

affecting nurse leadership and its possible contribution to promote workplace mental health and the quality of the working life of nurses.

This thesis begins with a comprehensive literature review of leadership research, including a definition of leadership, approaches taken in the methods of leadership research, and the impact of leadership in the health care profession.

This thesis is divided into seven chapters as displayed in Figure 1.1.

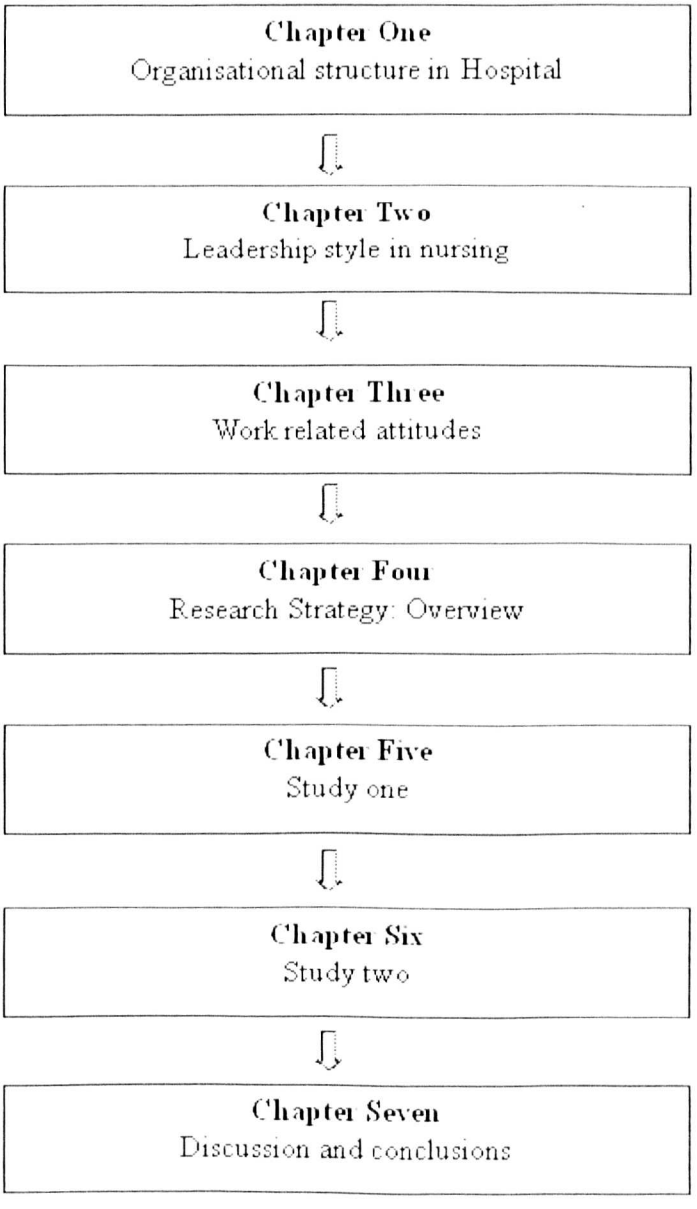


Figure 1.1 Structure of the thesis

Chapter One: Organisational structure in Taiwanese hospitals. Chapter One begins with a general overview of the research and presents the organisational structure of hospitals in Taiwan. In addition, the Chapter further presents a number of issues to be examined in the Taiwanese national health system and the current challenges in nursing marketing.

Chapter Two: Leadership style in nursing. Chapter Two explores several leadership theories and addresses how they might be related to the issues of organisational performance. Leadership style has been studied from a number of different perspectives and each style has its own strengths as well as its own weaknesses. Thus, this chapter describes nursing leadership styles and organisational health, including a description of how creative a nursing role can be and how it can contribute to the effectiveness of health care organisations. Further discussion is provided on the nursing workforce and the mental health issues in Taiwan.

Chapter Three: Work related attitudes. Chapter three focuses on the second aim of the thesis which identifies the key issues of nursing leadership based on the views of the hospital representatives. Chapter Three also focuses on the mental health outcomes of nurses. Leadership theories and key issues will be raised from the results of a literature review.

Chapter Four: Research strategy: overview. Chapter Four presents the research methodology issues of a qualitative (Study one) and a quantitative study (Study two). In this chapter, it is explained how the two studies were conducted using both a qualitative and quantitative approach. In addition, ethic concerns will be described.

Chapter Five: Study one. Chapter Five aims to explore the conceptualisation of leadership and the applicability of transformational leadership in Taiwanese hospitals. Study One is presented in this chapter and the research is conducted

using a qualitative design. Through face-to-face interviews with the hospital representatives in Study One, we identify the key issues that they consider to be advancing leadership.

Chapter Six: Study two. Chapter Six examines the third and the fourth aims of the thesis. In this chapter, Study Two is presented which used a quantitative design. The questionnaires used in Study Two were used to investigate leadership styles within Taiwanese hospitals and to examine the interactive process among job nature, the organisation, and general well-being. Evidence for construct validity and reliability of items is highlighted and five dimensions of the questionnaire are demonstrated in this chapter. A hierarchical model for inferring causal relations was developed to examine the relationship between each variable. The results of these two studies are presented which have been presented at two international conferences (Lin, Hunt and MacLennan, 2009; 2010).

Chapter Seven: Discussion and conclusions. Chapter Seven provides a summary of the overall findings and suggestions of improvements to nursing leadership styles. This final chapter of the thesis discusses the results and recommendations to all the included studies. The organisation of this thesis progresses logically from a background survey through to a theoretical building of nurses' quality of working lives. An explanation of the research design and data analysis and, finally, recommendations are made. Each of these stages was highly correlated to the research purpose. Finally, recommendations are presented at the end of this thesis.

Chapter 1: Organisational Structure in Hospitals

1.1. Background

This chapter provides a general background of the research project as well as an explanation of the health care organisations, hospital structure and nursing system in Taiwan. The relationships between organisational health and productivity will also be discussed in this chapter.

The structure of Chapter One is displayed in Figure 1.2.

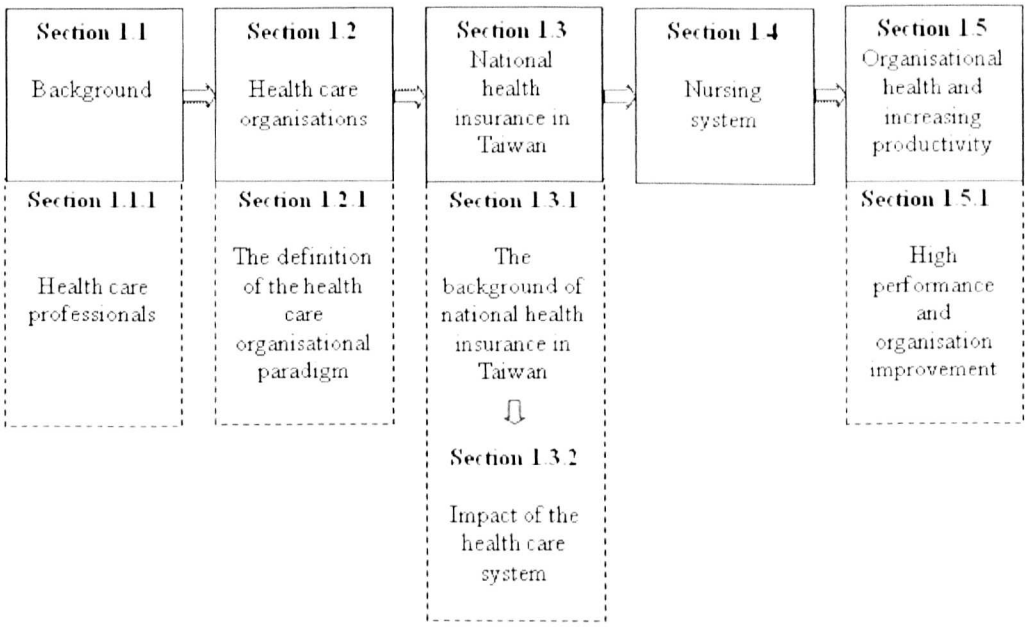


Figure 1.2 Chapter One structure

The majority of the public spend much of their life at work. According to Naidoo and Will (2000), approximately 25.2 million employees in the UK spend 60% of their time in the workplace. The workplace environment can be regarded as an important factor significantly affecting an employee's health and quality of working life (Wu et al., 2011). The laws and regulations of occupational safety and health are increasingly concerned with worksite poisonous substances, management and environmental safety (Institute of Occupational Safety & Health). Apart from this, there is a lack of concern regarding workplace mental health issues. With much well researched in the psychosocial domain of workplace health, managerial characteristic has been

suggested as a key issue as well as influencing employee's well-being (Hall, 2007; Shirey, 2004; Stapleton et al., 2007; Stuenkel, Nguyen, & Cohen, 2007). A leader makes a significant contribution to a healthy workplace. This thesis will attempt to address and focus on leadership styles in the nursing profession.

Within the last few decades, traditional industries have faced huge changes in Taiwan in the shift from an industrial to an information economy (such as the emergence of computer technology). With the change in manufacturing and marketing competition in Taiwan, employees are facing increasing levels of stress. Occupational stress is regarded as a psychosocial risk for the safety and health of a worker (Kortum, Leka, & Cox, 2010, 2011; Pisljar, van der Lippe, & den Dulk, 2011).

A recent study by Sparks, Faragher, & Cooper (2001) focused on the impact of these workplace transitions on employee well-being and examined four issues: job insecurity, work hours, decision authority at work and the style of management. Several interesting comments were made by authors in this study. Firstly, as subordinate employees are often from poorer social backgrounds and as this is strongly related to their poorer health, it is necessary to focus on these workers. Secondly, the results of this study revealed a lack of information about health problems related to new technology in the workplace such as musculoskeletal problems, visual discomfort, general fatigue, and psychological health. Finally, the results highlighted the need to consider the difference between perceived positive and negative stressors in the workplace.

While the awareness of workplace health has risen and occupational health and safety issues have developed in Taiwan, the government has built up the health policy to protect workers' rights. It is well known that government policy is the most effective way to ensure that employees work healthily and safely (Benach et al., 2010). In Taiwan, the health service workers are protected by the Labour Standard Act (announced in 1984, Taiwan) and the Labour Safety and Health Act (announced in 1974; Taiwan). However, the Labour Safety and Health Act (1974) does not cover all working conditions, especially in the workplace of the health care service. The Labour Safety and Health Act emphasise aspects of physical hazards, environment safety, and health, but there is less information relevant to mental health such as job stress.

In addition, health care service workers need to have health examinations annually but the health examination does not include any mental health consultation. This implies that the external policy does not include enough to prevent the mental health problems related to the working environment, and much occupational injury still exists in health care organisations.

With changing socioeconomic conditions and high unemployment rates in the global context, employees are facing more stressors (Ali & Lindstrom, 2006). In the UK, while the awareness of occupational stress is increasing, more and more organisations are developing policies to create better working environments and to promote workplace mental health. In recent years, attention is increasingly being given to occupational stress prevention in Taiwan. However, there is a lack of such policies. In order to create a supportive and healthy environment, identifying problems and proposing interventions as useful methods for establishing mental health regulations in the workplace is essential.

1.1.1. Health care professionals

Health care professionals are often working in an impatient environment. Numerous studies have demonstrated that nursing is a stressful occupation (Baglioni Jr, Cooper, & Hingley, 1990; Brown & Edelmann, 2000; Cooper & Mitchell, 1990; Su, Boore, Jenkins, Liu, & Yang, 2009). Many studies have examined coping with job stress at an individual level, in terms of stress management (Lim, Bogossian, & Ahern, 2010). Such studies have also been conducted at the organisational level (Lee et al., 2010). With well documented evidence of job stress among nurses, organisational factors such as leadership style, social support, and work climate have been recognised as contributing factors to the mental health well-being of nurses (B. Arnetz & Blomkvist, 2007; Bartram, Joiner, & Stanton, 2004; Janssen, Jonge, & Bakker, 1999; Lohela, Bjorklund, Vingard, Hagberg, & Jensen, 2009). This highlights the applicability of organisational factors to improve the well-being of nurses. Although, scientific research has been conducted in various work disciplines, nursing job strain still remains problematic. Therefore, this study will focus on the mental health outcomes of nurses at the organisational level and individual

level. The purpose of this study is seeking better improvement of mental health through the advancement of leadership.

First of all, it is necessary to understand the organisational structure in different types of hospital. These differences can be examined through techniques such as informal discussions with workers, formal group discussions and standardised questionnaires. In this thesis, both qualitative and quantitative studies are utilised.

1.2. Health care organisations

1.2.1. The definition of the health care organisational paradigm

According to Levy & Merry (1986) , the term "organisational paradigm" can be used in two ways. Broadly, it implies the organisational philosophy, beliefs, values, structure, policies, and operations. More explicitly, it implies the basic presuppositions that imperceptibly define and shape structures, policies, and operations. More concisely, what organisation members perceive as important and dependent on their view.

In this Chapter, the types of Taiwanese health care organisations, policies, and the nursing system are brief introduced. Then, the possibilities of organisational change as a paradigm shift in health care settings are interpreted.

In Taiwan, there are three types of health care organisations. These can be classified briefly as private not-for-profit, publicly supported and private for-profit. The ownership is different among these three types of organisations. Private not-for-profit health care organisations are usually founded by voluntary or religious groups. Publicly supported health care organisations are those operated by government such as county health departments and those complex medical centres operated by the veterans affairs departments. Private for–profit health care organisations are operated by businesses and range from nursing home chains to large hospital and health maintenance organisations. In each type of hospital, four levels of classification are possible: 1) medical centre (more than 500 beds); 2) general hospital (more than 250 beds); 3) regional hospital (more than 20 beds); and 4) clinic.

Even though some nurses work independently as consultant nurses, most nurses are employed by hospitals. Regarding ownership, hospitals in Taiwan can be briefly classified into three types. These types of hospitals might be similar in their environment in terms of location, the structure of the building, the number of beds, facilities and organisational structure (see Figure 1.3.). However, the management system and environmental climate might be different in these hospitals due to the ownership. The hospital management system is unlikely to be the same in the different types of hospital. In order to understand what the differences among these hospitals are and how these differences may influence the management style or leadership within hospitals, it is necessary to examine leadership/management approaches in these health care service workplaces. In addition, how management systems impact on their employees, in terms of their job performance and the quality of their working lives, needs consideration.

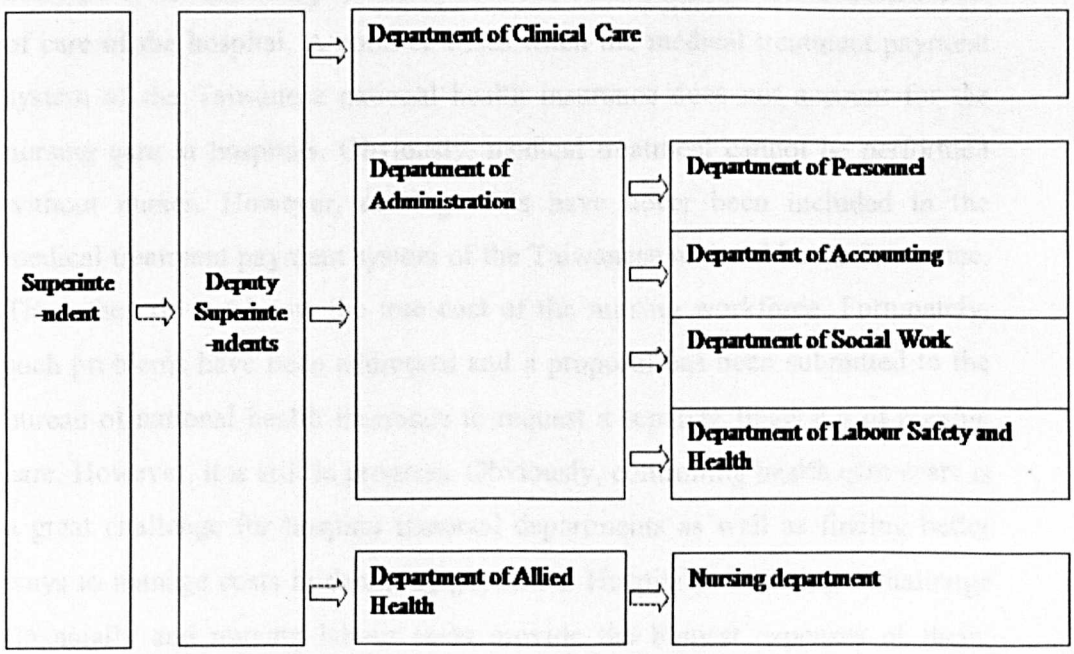


Figure 1.3 The organisational structure of the hospitals in Taiwan

1.3. National health insurance in Taiwan

1.3.1. The background of national health insurance in Taiwan

Taiwan has implemented a National Health Insurance (NHI) program since 1995 and has been touted worldwide for its success in lifting the health levels of the Taiwanese population. The NHI program has been rated as one of Taiwan's most successful public programs with high satisfaction ratings above 70 % and more than 99 % of citizens are enrolled in the program. In addition, Taiwan's NHI system is one of the most successful health care models compared with other countries around the globe (Bureau of National Insurance, 2011). However, little research has demonstrated the mental health issues associated with health care professions under the NHI system, especially in the quality of nurses' working lives in Taiwan. Therefore, the current study aimed to explore this issue.

In Taiwan, the hospitals levels of care are classified by number of beds and type of service. The payment system of NHI is based on the classified level of care of the hospital. A conflict arises when the medical treatment payment system of the Taiwanese national health insurance does not account for the nursing care in hospitals. Obviously, medical treatment cannot be performed without nurses. However, nursing costs have never been included in the medical treatment payment system of the Taiwanese national health insurance. Thus, they do not know the true cost of the nursing workforce. Fortunately, such problems have been addressed and a proposal has been submitted to the bureau of national health insurance to request a separate financing of nursing care. However, it is still in progress. Obviously, controlling health care costs is a great challenge for hospital financial departments as well as finding better ways to manage costs in declining payments. Hospitals are facing a challenge financially and nursing labour costs provide the biggest expenses of them. When budgets are limited, it is more likely that nursing costs are reduced. It is time for hospital managers to understand nursing costs and provide information to help manage the nursing workforce.

1.3.2. Impact of national health insurance at the organisational level

The impact of national health insurance is seen not only in the individual but also at the organisational level. Hospitals are facing huge challenges with the increase of nursing shortages, limited budget, competition with other hospitals and limited patients (Sanford, 2010). Under the national health insurance programme, hospital management departments cut down personnel costs in order to deal with this difficult situation. In the short term, it is can be expected that costs will decrease dramatically. However, over a longer period of time, there might be potential risks such as increasing medication errors, high turnover of staff, impaired patient safety, and reduced quality of health care (Kane, Shamliyan, Mueller, Duval, & Wilt, 2007; Needleman, Buerhaus, Mattke, Stewart, & Zelevinsky, 2002; Sovie & Jawad, 2001). Hospitals' financial costs might even increase as a result.

1.4. Nursing system

In Taiwan, the clinical ladder that exists in general clinical agencies start with N1 basic nursing and continue to director of nurses. This can be seen in Figure1.4.

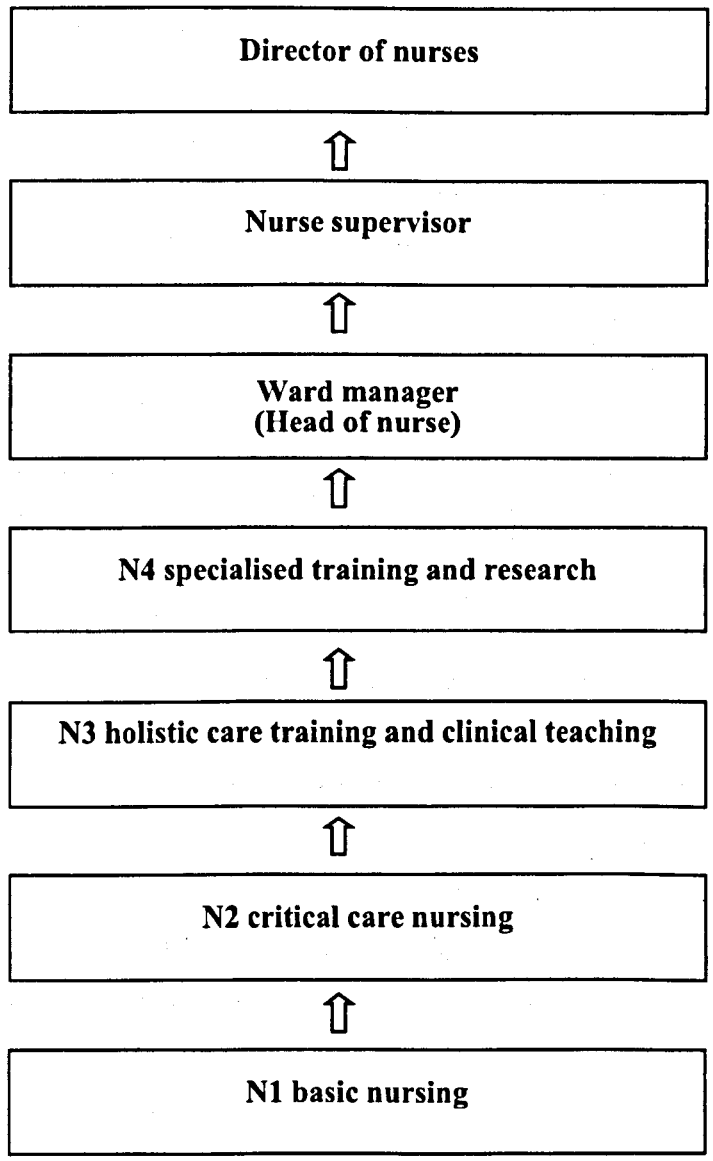


Figure 1.4 Diagrammatical nature of the nurses' clinical ladder

In the Taiwanese health care system, more than half of employees are nurses; the majority of the human resources in hospitals. Nurses are well known to be exposed to a high risk of work accidents such as needle injuries and occupational stress (Yassi, Gilbert, & Cvitkovich, 2005). With the awareness of the occupational health and safety climate rising in Taiwan, health problems related to the workforce/nursing profession have been addressed and identified. Although several occupational health studies have been conducted across various disciplines, most of the existing research focuses on the individual level when exploring the occupational health and

safety problems of nurses such as lower back pain (Chiou, Wong, & Lee, 1994; Yip, 2001). Nursing leadership is relevant to quality of care and work-related stress (Gustafsson, Fagerberg, & Asp, 2010; Marks-Maran, 1999). Evidence-based practice research in hospital settings which focuses on the mental health of nurses at the organisational level is needed, such as the psychological effect of insufficient leadership.

It has been suggested that organisational factors are inseparable from both the physical and psychosocial work environment (Skillen, 1996). Psychosocial work environment is described as psychological processes linked to the social environment of work (Standsfeld & Candy, 2006). Karasek (1979) defined two key dimensions of the psychosocial work environment: psychological job demands and decision latitude. Those aspects of the psychological job demands, such as job characteristics and their social and organisational contexts, are referred to throughout as psychosocial hazards. Psychosocial hazards in the workplace contribute to work-related stress. Job stress and nurse leadership style have been reported as the most influential variable in job satisfaction (Abdelrazek et al., 2010; Bratt, Broome, Kelber, & Lostocco, 2000). Nursing leadership is considered as one of the most important factors which contributes to mental health of nurses and greater supervisory support associated with reduced job stress (McGilton, McGillis Hall, Boscart, & Brown, 2007). Nurse leaders have a dramatic influence on subordinate's mental well-being and the possibility of organisational change through enhancing leadership.

A number of studies documented that working conditions could be improved by organisational change (Adams, Denham, & Neumeister, 2010; Kramer & Schmalenberg, 2008). Hospitals can establish strategies to reduce those factors related to the mental health of nurses. In Taiwan, nurses lack the opportunities to participate in decisions regarding their working conditions. They are expected to work as a team but they do not have enough empowerment. Although nurses have regular meetings with their managers, problems still exist. Nurses might consider report problems such as excessive workload to their manager but those problems may still not be resolved. In addition, nurses might worry that through their complaint they will lose their job or be perceived as not being able to do their job well. These could all be

reasons why their working conditions have not improved. To summarise, organisational changes can be seen as the primary method to promote mental health in nurses.

1.5. Organisational health and increasing productivity

Organisational health is referred to as an organisation's ability to function effectively. There is a raising research interest that points to evidence linking employee well-being and organisational performance (B. B. Arnetz, Lucas, & Arnetz, 2011). Healthy organisations are defined as having an environment where there is low levels of strain and high levels of job satisfaction and organisational commitment (Cooper & Cartwright, 1994) . A hospital is a workplace which aims to delivery high quality and cost effective care. Leadership is a potential source of strain for employees at work. Leadership style and organisational culture is associated with organisational effectiveness and employee job satisfaction (Bass & Avolio, 1994). A leader is a key stakeholder in the process of organisational change and creates positive change in the subordinates. Organisational change as well as superficial change has to be conducted from management level to employee level. However, leaders/managers need motivation to change their organisation and achieve advantages through this change. Therefore, economic benefit can be a good reason to persuade organisational leaders.

1.5.1. High performance and organisation improvement

An individual's goals reflect their personal values, interests, and needs that are learned from their society (Schwartz, 1994). Employees may be motivated to work toward achieving their own goals and help organisation achieve its goals. Internal strategies such as rewards may motivate individuals to achieve their goals. For health care professions, this could mean taking pride or receiving bonuses from the healthcare organisation when the quality of patient care is shown to be exceptional (Buchbinder & Shanks, 2007).

Improving organisational health equates to increasing employees' productivity and ensuring the quality of nursing care (Kanai-Pak, Aiken, Sloane, & Poghosyan, 2008; Katz, Karuza, Lima, & Intrator, 2011). Poor

working conditions are highly related to low employee productivity and associated with absenteeism (Lavoie-Tremblay et al., 2005; Verhaeghe, Vlerick, Gemmel, Van Maele, & De Backer, 2006). Moreover, poor working conditions also have a high correlation with medical errors (Arakawa, Kanoya, & Sato, 2011; Tang, Sheu, Yu, Wei, & Chen, 2007). From the view of the economic benefits and the safety of patient care, these issues could provide motivation to hospital managers to improve organisational health.

There are various ways to promote organisational health, such as incremental change and transformational change (Cameron, 1998; Manley, 2000). Incremental change focuses on improving the effectiveness and efficiency of the organisation from an existing strategy, such as a continuous improvement to the quality of the management process. Transformational change is concerned with an impact on the organisation's structure, strategy, people and values. Transformational change is sometimes referred to as 'quantum change'. Based on a literature review (Waggoner, Neelya, & Kennerley, 1999), there are four main elements which influence organisational change. These include the external and internal context, the leadership style, the process-oriented change and the outputs and outcomes of change for different stakeholders.

Improving organisational management is the most common strategy for enhancing an organisation's overall health and productivity and a leader is encouraged to achieve this (Bolman & Deal, 2003). However, when leaders or managers fail to deal with problems, the government is more likely to respond by making policies. For example, the safety and health policy describes the organisation's fundamental approach to managing safety and health issues. The policy defines the basic principles of the organisation's safety and health management program. While the organisation's safety and health policy is communicated to all employees through the highest levels of management, employees will be more likely to follow. The policy helps an organisation to create a safety and health culture by encouraging all employees in the organisation to make a commitment to safety and health.

In this study, emphasis will be placed upon the impact and relationship among the organisational development of hospitals, the leadership of nursing, and the health outcomes of nurses.

CHAPTER One: Summary and Conclusion

This chapter presented a background to the health care organisational structure in Taiwan and outlined the present challenges of the health care system. This chapter was classified into five sections, which discussed: a) a background to the health care professionals in general; b) the health care organisational structure in Taiwan; c) the national health insurance and how it affects the health care system; d) the hierarchical system of nursing; and e) how to improve the performance of the health care organisation. First, an overview of health care professionals and demographic information of the nursing workforce was presented followed by the challenges they are currently facing. Solutions to improve organisational health were described. This was contrasted with the estimated cost of the nursing workforce, which suggests that the bureau of national health insurance does not have a budget for nursing care in hospitals in Taiwan. In addition, nursing costs have never been included in the medical treatment payment system of the Taiwanese national health insurance. Nurses have been identified as a high risk occupational group in terms of physical and psychological dangers. Thus, this thesis draws attention on the nursing workforce. The next chapter focuses on nursing leadership styles, leadership theories, work demands and complicated situations, organisational culture in hospital settings, and mental health promotion in the workplace.

Chapter 2: Leadership style in nursing

A narrative review of the literature on nursing leadership style and mental health outcomes of nurses was conducted in Chapter Two and Three. Sources that met following criteria were included. First, sources were identified by using the key words, nursing leadership, job satisfaction, organisational commitment, quality of working life, and nurse.

Chapter Two is divided into six sections (see Figure 2.1) and begins with defining the mental health problems of nurses and the current challenges in Taiwan. Then, a comprehensive literature review of the mental health of nurses and leadership research, including the factors related to work strain of nurses, the types of leadership style, and the influence of nursing leadership style is presented. For the purpose of mental health research in nursing, both individual and organisational level factors which are associated with mental health outcomes are addressed. The organisational level factors have been raised concerning currently. Leadership has been suggested as one of the factors that are critical for the success of an organisation. Therefore, this chapter is focused on nursing leadership style and organisational health. Nursing leadership is not only relevant to nurses as individuals but also relevant to organisational health. Negative leadership style is associated with high levels of occupational stress (Offermann & Hellmann, 1996). In the first section of this chapter, nursing roles and the current challenges relating to health outcomes in nursing will be addressed. This chapter will also address how a well construction of how a creative nursing role and a system that functions properly can contribute to the effectiveness of health care organisations will be introduced. In researching nursing leadership style, it is necessary to review leadership theories, especially contemporary theories. The second section discusses the leadership theories and research evidence that have been shown to improve organisational health through improvements in nursing leadership style. One of the most popular forms of leadership is transformational leadership. The following section is concerned with the transformational leadership style and nursing management. Towards the end of the chapter, transformational leadership style appears to

have the potential to motivate an organisation and improve its capacity, as well as workplace mental health promotion in the nursing workforce.

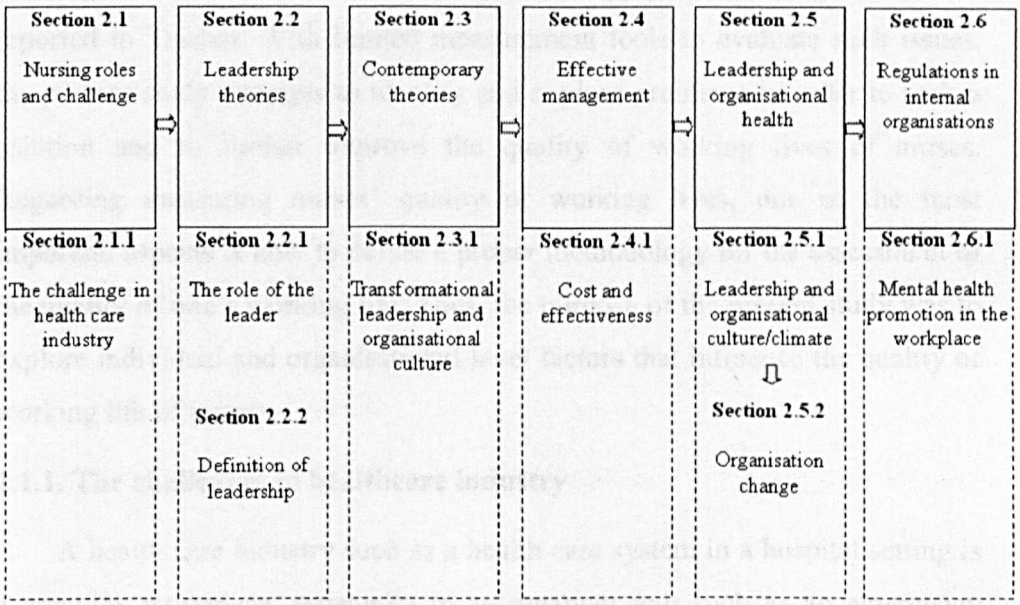


Figure 2.1 Chapter Two structure

2.1. Nursing roles and their challenges

From the Institute of Occupational Safety and Health survey in Taiwan (2001), it was shown that self-reported job stress of male employees increased from 7.6% in 1994 to 13.8% in 2001. In female employees, it doubled from 6.5% in 1994 to 13.5% in 2001. The majority of nurses are female and nurses are well known to be exposed to occupational stress and high work accidents (Su, Boore, Jenkins, Liu, & Yang, 2009).

Most of the research relevant to nurses has been focused on work accident surveys and on the quality of nursing care (Drebit, Shajari, Alamgir, Yu, & Keen, 2010; Smith, 2010; Tinubu, Mbada, Oyeyemi, & Fabunmi, 2010). However, evidence-based literature relevant to the mental health of nurses and the quality of their working lives are in short supply and research findings are inconclusive. The quality of the nurses' working life is a complex issue and can be influenced by a variety of factors such as job nature, role conflict and organisational factors (Baba & Jamal, 1991). Worksite mental health is the

ability of the employee to adjust to their working environment. The association between the mental health problems of nurses and their quality of life are evident (Hsu & Kernohan, 2006). However, there are no specific qualities of working life scales for nurses that have been psychometrically tested and reported in Taiwan. With limited measurement tools to evaluate such issues, the present study attempts to identify and explore problems in order to seek a solution and to further improve the quality of working lives of nurses. Regarding measuring nurses' quality of working lives, one of the most important aspects is how to define a proper methodology for the assessment of the quality of one's working life. Thus, the purpose of the present study was to explore individual and organisational level factors that influence the quality of working life of nurses.

2.1.1. The challenges in healthcare industry

A health care industry such as a health care system in a hospital setting is a complex workplace, especially in an inpatient unit such as an emergency department. Challenges could include the financial strain on the hospital and also the workload strain for health care professionals. As a result, there is a shortage of nurses worldwide. This concern needs to be addressed. We also need advanced leadership to navigate through this crisis.

Health care industry is completely different when compared with other industries for three points. First, the people they deal with are patients and who are ill-defined, the outcome of care is uncertain. Besides, patients are cared for one at a time because they are each unique and disease is widely variable and it make health care industry cannot operate as a manufacturing factory. In addition, the running of a hospital is not like the running of a manufacturing factory or even a business company. In a manufacturing line, automatic or semi-automatic technology can be used to produce products and the specification of products does not change regularly. Indeed, in the hospital setting, there is no possibility to do the same thing as within manufacturing industry. According to these points, it tends to make health care industry unique.

2.2. Leadership theories

2.2.1. The role of the leader

Leaders are more likely to have the power to influence and inspire others, set-up task direction and strategy, arrange resources and empower others. However, managers tend to focus on tactics such as planning, directing staff/projects, and monitoring work, exercising control over situations and solving problems. In a nursing setting, change management (create new ways of working) , negotiating ability and conflict management are important skills that nurses should develop to become effective leaders (Bennett, Perry, & Lapworth, 2010).

2.2.2. Definition of leadership

Leadership has many meanings and definitions. It has been suggested that there is no single definition broad enough to include the overall leadership process (Marquis & Huston, 2006). According to a definition by (Northouse, 2010),"Leadership is a process whereby an individual influences a group of individuals to achieve a common goal". As a behavioural process, leadership can be observed by the behaviours displayed by the leaders and this is defined as "Process Leadership" (Jago, 1982). The leader influences subordinates to achieve the goal of the organisation in a positive way. A literature review of leadership theories revealed an evolving process from early theories to later theories (Bolden, Gosling, Marturano, & Dennison, 2003). Each theory has its own strengths as well as its limitations and may not be applicable to all work contexts. Leadership theory began and evolved from trait theories to transformational leadership. Before the mid 1940s, trait theories were the foundation for most leadership research. These theories tended to focus upon characteristics and behaviours of successful leaders. They assume that some people have certain characteristics which make them better leaders than other people. Charisma is one of the traits that appeared more often than others. Trait leadership theory believed that leaders had innate qualities and that process leadership is a process in which an individual influences others toward a particular goal. Two different views of leadership are shown in the chart below:

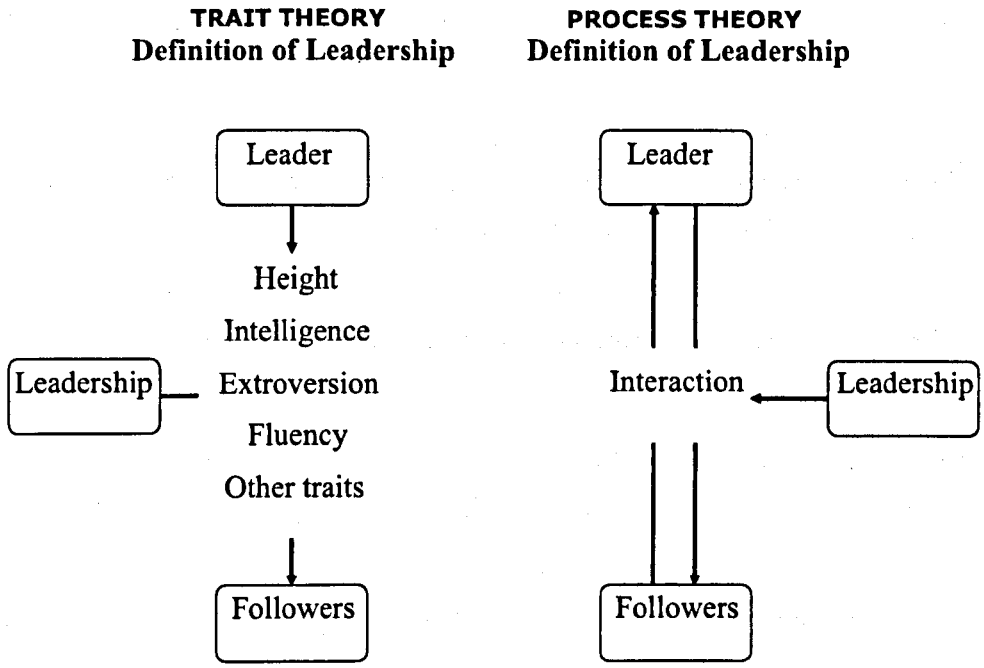


Figure 2.2 Trait theory and Process theory (Northouse, 2010)

However, the problem with a trait approach to leadership is that no consistent traits could be identified and it does not appear to be gender specific. The lack of certain traits does not mean that the person is not a leader. Also, it has been noted that leadership skills can be developed and be trained (Pullen, 2003). Leadership skills are learned and developed over time. While leadership is learned and developed, the skills and knowledge process of a leader can be influenced by his/her traits and skills.

With inconclusive results from trait studies, researchers place emphasis on the leader's style of leadership rather than leader's traits. McGregor stated that "leadership strategies are influenced by a leader's assumption about human nature" (W. G. Bennis & Schein, 1966). According to McGregor's X (task-oriented) theory and Y (relation-oriented) theory, managers which present two sets of assumptions about human nature and behaviours with negative and positive view. Under theory X assumptions, a leader would prefer an autocratic style. Conversely, a leader holding theory Y would likely employ a more participative style. However, the autocratic style leader may create the resistance of communication with subordinates. In contrast, the participative style leader would empower subordinates to seek responsibility and achieve goals with more committed. The strength of McGregor's X and Y theory is

focused on human relationships along with productivity and performance. When work is aligned with human needs and motivations, the productivity of employees would increase. However, the weakness of these assumptions is a lack of concern for employee well-being. It has been suggested that leaders who utilize more X assumptions tend to be less concerned with quality aspects and health outcomes (Larsson, Vinberg, & Wiklund, 2007). The theory X and Y seem to present unrealistic extremes of orientation towards work and are employed infrequently.

Later, these styles came to be called autocratic, democratic, and laissez-faire leadership. Researchers suggest that leadership style should vary with regards to the situation or the employees involved. With little guidance of effectiveness, leadership in different situations was provided through pervious theory. Contingency-situational theories were developed to indicate the style to be utilized. Fiedler's (1967) contingency model is based on situational contingency which is a result of interaction between leadership style and dynamic environment. Situation will create requirements for a leader. Fiedler suggests that no one leadership style is ideal for every situation.

Leadership may occur in formal or informal settings (Naidoo & Will, 2000) and has been studied using qualitative and quantitative methods and cross discipline contexts. In a hospital setting, formal leadership is exemplified by a nurse exercising legitimate authority conferred by their organisation. Leadership is informal when it is exercised by an individual who does not have a specified management role. Indeed, there is no one best leadership style as the individual leader, their subordinates, and the situation can all influence leadership effectiveness. The perceptions from managers and subordinates are inconsistent. Subordinates prefer managers with more clearly expressed leadership behaviour than managers themselves prefer and demonstrate (Sellgren, Ekvall, & Tomson, 2006). Besides, nursing is different to other work. In the nursing context, a leader has a multiple dimensional position as both a clinical expert in their specific field and also a manager within the hospital. The duties of a nurse manager is quite wide ranging such as they need to maintain the functionality of the workplace, a high quality of patient care, and to negotiate with their staff and others department members. It is difficult and a

real challenge to be in such a leadership position, especially in a constantly changing system.

2.3. Contemporary theories

A range of leadership frameworks are currently being used within organisations. Since the late 1970s, theorists began arguing that effective leadership depended on many variables such as organisational culture, the working environment, the values of the leader and their followers, the situation and the influence of the leader (Barden & Distrito, 2005; Zapf, Knorz, & Kullac, 1996). Contemporary theories, such as transformational leadership theories, were developed to integrate these variables. The concept of transforming leadership can be defined as "leaders' followers raise one another to high levels of motivation and morality" (Burns, 1978).

The meaning of a good leader is a person who has particular leadership skills and learns to motivate and inspire others to achieve the goals of an organisation. Burns defined the essential elements of leadership as the relationship of power for a specific purpose. The purpose is consistent with the motivations, needs and the values of leaders and subordinates. Later, (Bass, 1985) developed Burns' concept of transforming leadership in the area of "Leadership and Performance". The concept of Bass's transformational leadership extended House's (1977) idea of charismatic leadership. Compared with other theories, transformational leadership theory is one of the most widely researched and discussed. Research has suggested that certain leadership styles, particularly transformational, are better than others (McCutcheon, Doran, Evans, Hall, & Pringle, 2009). Academic and professional interest in leadership is growing and leadership has been studied through a number of different perspectives. Much literature has reported the positive aspects of transformational leadership and there is very little research on the negative aspects of transformational leadership. With a comprehensive literature review has been conducted, it is known what is involved in leading well. Therefore, in present study, the leadership is focused on transformational leadership as it is one of the most widely researched and discussed.

2.3.1. Transformational leadership and organisational culture

The effectiveness of transformational leadership is evident. Current interests of nursing in organisational leadership are recruiting and retaining workforces, motivating subordinates, and further enhancing the quality of patient care. Leadership styles are associated with staff sickness absence (Schreuder et al., 2011). Regarding the quality of patient care, hospital nursing leadership styles may contribute to 30-day mortality of patients (Cummings et al., 2010). Bass (1985) extended the work of Burns by presenting a formal model of transformational leadership as well as the factors of leadership behaviours. Bass has described transformational leadership behaviours in terms of idealized influence, inspirational motivation, individualized consideration, and intellectual stimulation. The full range of Bass' model includes transformational leadership, transactional leadership, and laissez-faire leadership. Bass (1985) suggested that to have transformational leadership instead of just transactional is ideal. The best leaders tend to behave in both transactional and transformational ways (Miner, 2005).

Transformational leaders stimulate their subordinates to share a vision and use goals as inspirational motivation. Subordinates are encouraged to think of old problems in new ways and are seen individually. Additionally, followers are influenced by a transformational leader who is trustworthy, respectable and dedicated (Nilsson, Hertting, Petterson, & Theorell, 2005). By applying transformational leadership, leaders can confidently deal with a complex and rapidly changing working environment (Murphy, 2005). Although there is substantial evidence of the effectiveness of transformational leadership, it has also been argued to be too complicated to use in a practical setting. This makes a point that a gap exists between theory and practice. In addition, there is a lack of longitudinal research in this field. Transactional leaders set a goal and tell their followers clear directions in terms of the standard performance of their job requirements. A transactional leader uses rewards to reinforce their followers' behaviours in order to achieve their goals. Different behaviours of transformational and transactional leadership were measured with the Multifactor Leadership Questionnaire (MLQ; Bass and Avolio, 1990). The MLQ was developed in order to measure leadership behaviour. It identified

four transformational components, which are idealized influence, inspiration motivation, intellectual stimulation, and individualized consideration. The questionnaire also includes two transactional components which are contingent reward and management by exception (active and passive). There are seven components in the questionnaire, laissez-faire is the last one and this style is supposed to be the most ineffective as it allows others to do their own thing. A similar result reported by (Piccolo & Colquitt, 2006), which applied the MLQ, found that transformational leadership is positively associated with predicators of leadership effectiveness such as job satisfaction, motivation, and performance. It is hard to measure leadership style as it is influenced by working environment, situations and followers. It has been proposed that nurse managers use a variety of leadership styles (Vesterinen, Isola, & Paasivaara, 2009). The nursing establishment in Taiwan is more satisfied with leaders who practice the leadership style of attributed idealized influence (Chen & Baron, 2006) . It seems impossible to identify certain leadership styles where the leaders, such as nurse managers, might use a variety of leadership styles. However, the styles they tend to use can be measured. According to published peer-reviewed research, a leader providing transformational change might help reduce the turnover trend of chief nursing offices (Batcheller, 2010).

It has been suggested in the existing literature that individual involvement in an organisation has negative correlation with stress levels. A study was conducted in hospitals and the results has demonstrated that transformational leadership is the most important predictor for successful individual involvement (Savič & Pagon, 2008). Successful organisations are influenced by numerous factors. Research has suggested that it may be helpful to improve organisational performance by developing strategies to increase the use of transformational leadership behaviours (R. Menaker, 2009). Exploratory studies have investigated the efficacy of transformational leadership, knowledge management and quality initiatives in hospitals. The results show that transformational leadership and quality management enhance knowledge management (Gowen, Henagan, & McFadden, 2009). Transformational leadership behaviours have also been suggested to be negatively associated with depression symptoms of health care employees (Munir, Nielsen, &

Carneiro, 2010). In addition, transformational leadership behaviours are relevant to physicians' job satisfaction (R. Menaker & Bahn, 2008). The leaders that demonstrate transformational leadership behaviours might have an influence on mental health outcomes of their subordinates. A study assessed the relationship between transformational leadership, the meaning of an individual's attribution regarding their work, and psychological well-being. The results showed that transformational leadership correlated with positive mental health effects of health care workers (Arnold, Turner, Barling, Kelloway, & McKee, 2007).

2.4. Effective management

Bennis and Nanus (2005) stated that "managers do things right while leaders do the right thing". Leadership and management are not the same thing but are complementary. Kotter (1996) made a crucial distinction between leadership and management. Kotter stated that successful change reveals two important patterns as well as successful change being driven by high-quality leadership, not just excellent management. This makes a point that change leadership is needed rather than change management. Leadership is a learnable skill and is complementary to management. Both leadership and management are necessary for success in a dynamic working environment. Burns (1978) describes leaders as transformers by maintaining an active approach to change and managers as transactors with short term orientation that is focused on the task at hand. Actually, a leader's behaviour is what the follower experiences directly. A better leader could lead their subordinates well and further improve their management (Nielsen, Yarker, Randall, & Munir, 2009). Poor leadership within health care organisations can cause strong adverse effects (Hemingway & Smith, 1999; Vartia, 1996).

2.4.1. Cost and effectiveness

Work stress is not a disease but is highly associated with the effectiveness and productivity of employees. Leadership style affects the performance of nursing care directly and has positive or negative effects. It is also associated with staff turnover (Donoghue & Castle, 2009; Raup, 2008). A literature

review also found leadership/management style to be one of the main sources of distress for nurses for many years (McVicar, 2003).

Two national surveys tried to explore the relationship between short-term work disability and depression among workers in a 30-day period (Kessler et al., 1999). The results demonstrated that depressed workers have between 1.5 to 3.2 more short-term work disability days in a thirty-day period compared with other workers. This can be expressed as a salary-equivalent productivity loss averaging between 182 and 395 US dollars. Occupational stress is highly related to economic cost as well as productivity and performance (Dewa, Lesage, Goering, & Craveen, 2004).

A survey examined the relationship between the risks of health behaviour and worker absenteeism (S. A. Serxner, Gold, & Bultman, 2001). The results found that higher health risks were related to higher absenteeism. Another cost-effectiveness study investigated the effects of work health promotion on absences with employees in a large industrial population. The participants in the intervention sites showed a 14% decline in disability days over two years in contrast with 5.8 % decline at the control site (Bertera, 1990).

In addition, a study assessed the impact of a worksite health promotion programme on short-term disability days in a large telecommunications company over a three year period. The worksite health programme was focused on reducing health care costs, improving employee satisfaction and improving their image. The results showed no significant differences between the intervention and control groups on short-term disability days lost. However, the findings indicated potential savings in excess of 1.3 million US dollars over a two year period (S. Serxner, Gold, Anderson, & Williams, 2001). The study addressed the impact of employee depression on business. Employee depression may have a large impact on productivity losses such as increased absenteeism, short-term disability and higher turnover (Goetzel, Ozminkowski, Sederer, & Mark, 2002). In summary, the literature reveals that in financial concept of the mentally healthy workplace has been shown to contribute to cost-effective management.

2.5. Leadership and organisational health

2.5.1. Leadership and organisational culture/climate

There is no single definition for organisational culture or climate and it has been studied from a variety of perspectives. Organisational climate is how employees perceive the organisation, e.g. as fair, informal, hierarchal or formal. Organisational climate is related to the leadership and the management style of the leader. Working climate is seen as important and has a substantial impact on employee strain (Keenan & Newton, 1984). Improving the organisational climate is more likely to promote patient safety and decrease health care costs (Hughes, 2008). A person's leadership style has a dramatic influence on the working climate and outcome of the work team. According to Marquis and Huston (2006), organisational culture "is a system of symbols and interactions unique to each organisation". Each organisation has its own culture. Culture develops as the fundamental principle of a healthy organisation to help it cope with its environment. One of the responsibilities of leaders is to create and maintain healthy organisational culture. Numerous studies about the influence of organisational culture on employees have been carried out (Marchionni & Ritchie, 2008; Mrayyan, 2008; Schein, 2010). The culture of an organisation has an important influence on the mental health and well-being of an employee. Conceptually, organisational culture has been defined as the psychological climate with which to create a culture as "a good place to work in the organisation". Organisational cultures are affected by organisational politics and vice versa. Cultures are the values of the individuals in the organisation (Koerner & Wesley, 2008).

Organisational culture plays an important role in supporting health and safety in the workplace. It has been suggested that leadership support is vital for successful culture change (Cummings, et al., 2010). An effort by organisations and individuals to develop transformational leadership is needed to enhance nurse satisfaction, recruitment, retention, and health in the workplace. The general work climate is often influenced by the leadership style. A hospital's structure and culture are major determinants of leadership styles (Stordeur, Vandenberghe, & D'Hoore, 2000). Leadership style affects the performance of nursing care directly and can have positive or negative effects

(Failla & Stichler, 2008). It can be hard to measure the quality of leadership and the style of leadership. However, it is essential to understand what kind of leadership is most suitable for nursing and for further improvement to organisational health. One of the most popular models is transformational leadership (Bass, 1985). A number of studies have shown positive findings between a transformational leader and organisational change. Four behavioural factors of transformational leadership were identified by Bass (1985) including idealized influence, inspiration motivation, intellectual stimulation and individual consideration. Figure 2.3 illustrates the relationship between transformational leadership behaviours and organisational outcomes. These four factors could be used to measure transformational leadership behaviour.

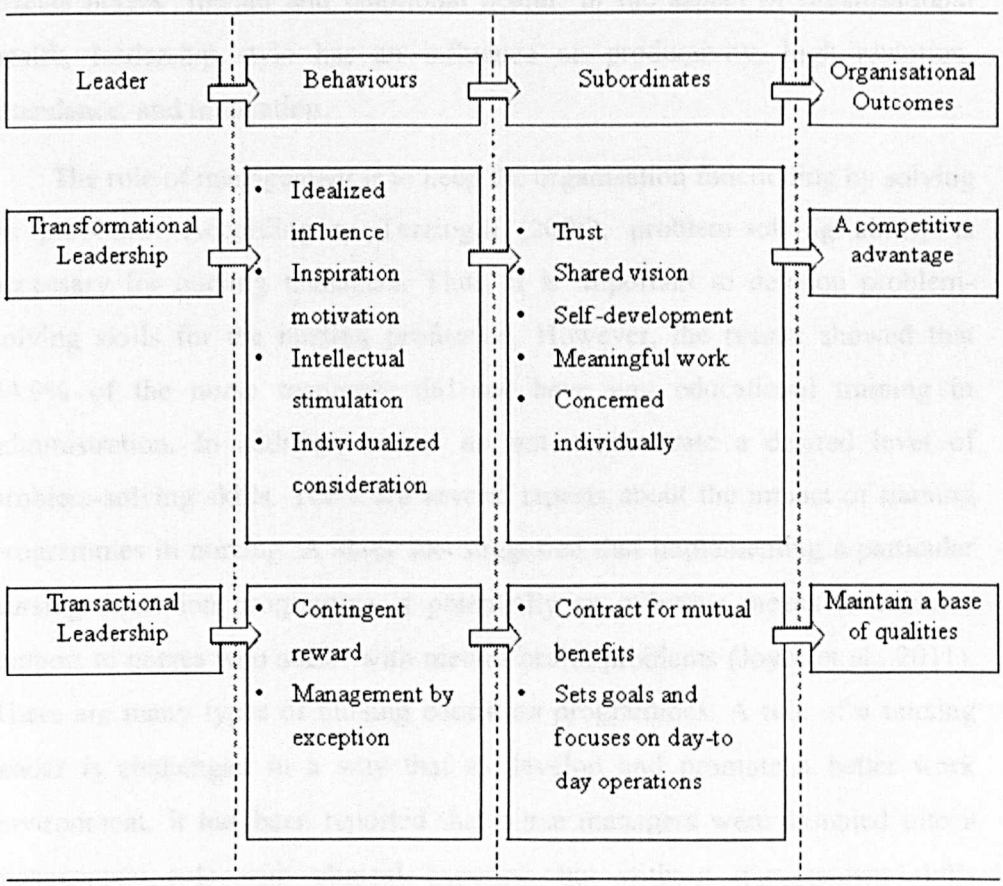


Figure 2.3 Summarised from Bass' theory, the relationship between leadership style and organisational outcomes

It is important to draw attention to the leadership style of the managers of departments or teams as this is a strong dynamic factor in organisations (Rodriguez-Gonzalo, Munoz-Lobo, Marzo-Martinez, & Sanchez-Vicario,

2009). A literature review also found that leadership/management style has been one of the main sources of distress for nurses for many years (McVicar, 2003). In addition, it has been suggested from the nursing management literature that leader-empowering behaviours influence employees' perceptions significantly (Laschinger, Wong, McMahon, & Kaufmann, 1999).

Leadership style is one of the organisational environment factors and has a dramatic impact on the mental health outcomes of nurses. The mental health of nurses is the result of individual behaviour and organisational behaviour including work design and organisational structures. Leadership in nursing is not only relevant to individuals as nurses but also relevant to organisational health (Huber, 2006). Regarding individual level, leadership style directly affects nurses' mental and emotional health. In the aspect of organisational health, leadership style has an influence on productivity, high retention, attendance, and innovation.

The role of management is to keep the organisation functioning by solving its problems. According to Terzioglu (2006), problem-solving ability is necessary for nursing managers. Thus, it is important to develop problem-solving skills for the nursing profession. However, the results showed that 64.9% of the nurse managers did not have any educational training in administration. In addition, nurses do not demonstrate a desired level of problem-solving skills. There are several reports about the impact of training programmes in nursing. A study has suggested that implementing a particular nursing education programme is potentially an effective means to enhance support to nurses who suffer with mental health problems (Joyce et al., 2011). There are many types of nursing education programmes. A role of a nursing leader is challenged in a way that to develop and promote a better work environment. It has been reported that nurse managers were assigned into a management role with clinical expertise but without management skills (McCallin & Frankson, 2010). Thus, this suggests that more emphasis on nursing leadership training programmes is needed.

2.5.2. Organisational change

Organisational factors have been identified as a cause of job stress. There are two kinds of basic stress interventions, namely organisation change and

stress management. Individual stress management includes one-to-one counselling, relaxation training, lifestyle education and behaviour change strategies (O'Donnell, 2002). Cognitive-behaviour skill training was used most often in stress-management studies and this training also seemed to affect organisation outcomes, such as job satisfaction (O'Donnell, 2002). A report by (Reynolds, 1997) has cited that individual level interventions, such as counselling, has clear benefits to employees' psychological well-being. However, the results from stress management intervention studies are inconsistent.

Noblet and Lamontage (2006) have cited three criticisms about individual stress management. According to the European Agency for Safety and Health at Work (EASHW), individual symptoms of stress are often manifestations of organisation level problems rather than personal coping deficiencies. Though the prevention programme on health-related attitudes and actions of individual employees, it makes valuable contributions to combating stress at work. However, it is not suitable to try to teach employees to cope with stressful working conditions. These strategies are aimed at helping people to cope with stressful working conditions without addressing specific working conditions.

Another type of stress intervention is organisational change. Successful interventions do not only require individual behaviour change, but also environmental improvements, such as organisation change. The aim of organisational stress interventions is to adjust or change the environment in the workplace to fit the individual worker (O'Donnell, 2002). The promotion of such workplace conditions is part of an intervention plan in enhancing mental health of employees. The National Institute for Occupational Safety and Health (NIOSH; US) developed a national strategy for the prevention of work-related psychological disorders in 1990 for reducing job stress (Sauter, Murphy, & Hurrell, 1990).

Two models are used mostly to design workplace organisational change interventions, the Job Characteristics Model (Hackman & Oldham, 1976) and the Demand/Control Model (Karasek, 1979). The Job Characteristics Model focuses on five approaches to work: skill variety, task identity, task significance, autonomy and feedback. The demand control support model is

based on dimensions of work such as job control, psychological demand, and social support. Karasek's demand control support model was used widely to measure work characteristics. The job content questionnaire based on Karasek's model includes five key dimensions of work, which are skill discretion, decision authority, personal demands, supervisor support, and co-worker support. A study has suggested that improved skill discretion and decision authority in a worksite could help prevent depression (Clumeck et al., 2009). Moreover, high levels of support from supervisors and co-workers play a moderating role against negative effects of high strain jobs on levels of work performance (Sargent & Terry, 2000). This makes the point that supervisors have great influences on employees' mental health. Thus, this might be a possible way to improve organisational health by training and enhancing the leadership style of supervisors.

2.6. Regulations in internal organisations

There is no doubt that policy is the most powerful way to ensure that an organisation performs effectively and efficiently. A review report by Jané-Llopis and colleagues (2005) has mentioned that regulatory policies in the workplace have a positive impact on employee's mental health. The policies include task and technical interventions, improving role clarity and social relationships, and interventions addressing multiple changes directed both at work and employees. Legislation and environmental interventions also have been shown to lead to increases in positive mental health and reductions in stress-related problems (Jané-Llopis, Barry, Hosman, & Patel, 2005). This study showed that job programme interventions increased quality of working life and also decreased depressive symptoms. It is believed that the workplace provides good opportunities to attempt to influence employee behaviour. Developing transformational nursing leadership is an important organisational strategy to improve patient outcomes (Wong & Cummings, 2007). A case study by Hsieh, Thomas, and Rotem (2005) demonstrated how organisations responded to patient complaints. Due to insufficient empowerment, information sharing was limited within organisations with inadequate communication between professional staff and management. The hospital did

not try to promote higher quality of care from patient complaints. It is obvious that understanding the problems in an organisation is essential in order to improve the quality of nursing care in hospitals. Before setting up internal regulations, what employees' need as organisational rewards (and this is achievable as motivation) requires investigation. Apart from internal regulations, are there any internal activities that would improve the mental health of the employees? Health promotion activity in the workplace might be a possible way to achieve this purpose.

2.6.1. Health promotion programme in the workplace

Mental health promotion combines the promotion of positive mental health and prevention of ill health (Cattan & Tilford, 2006; Herrman, Saxena, & Moodie, 2005; Tudor, 1996). Sound theory can ensure effective practice in mental health promotion and can be used in the analysis of problems in order to understand and define the areas for action (Bartholomew, Parcel, & Kok, 1998). In addition, theory is used to guide the process of interventions and evaluation (Saunders, Evans, & Joshi, 2005). Theories and models are related to the analysis of the conditions and problems such as models of the educational process and its consequences. Some theories and models have been used in mental health promotion (e.g., attachment theory, social support, stress and coping, social learning theory, and organisation theory) (Barry & Jenkins, 2007; Hawkins, Catalano, & Arthur, 2002; Jones & Barry, 2011). The range of actions described including communication, learning, and organisation theory to the management of change, programme planning and evaluation (Cattan & Tilford, 2006).

The concept of workplace mental health promotion is a comprehensive and multidisciplinary approach. Successful mental health promotion programmes are based on numerous factors including underpinning theory needs assessment, intervention methods and evaluation. Well designed workplace interventions can contribute to better mental health and well-being of employees. However, there is a gap between conducting methodological interventions and practical implementation in the workplace. Thus, different evidence-based research is needed to integrate the effective principles of interventions across multiple settings. Mental health promotion is defined as

those interventions that focus on promoting health and development as well as primary prevention (Durlak & Wells, 1997). The strength of a mental health promotion programme is its ability to employ practical interventions to enhance positive outcomes and reduce negative influences. In contrast to this, interventions may cause adverse outcomes with participants suffering with further health problems from interventions (Aust, Rugulies, Finken, & Jensen, 2010).

Previous research has identified several factors which are highly correlated with health, including personal lifestyles, smoking, exercise and psychological well-being (Davis, Jackson, Kronenfeld, & Blair, 1984). The relationship between work and health can be divided into direct relationships and indirect relationships. These different kinds of relationship can be classified depending on such factors as hazards, risky behaviour and general work environment. It is well known that such kinds of factors are principal elements for health promotion (O'Donnell, 2002). Workplace health promotion interventions often target the individual rather than focus on their environment. Such an issue as an individual-orientated approach has been criticized. This approach focuses on individual employees whilst being less concerned about the social and organisational conditions. Workplace Heath Promotion (WHP) have mostly focused on personal lifestyle behaviour including smoking, exercise and diet but less concern has been put on working conditions such as job stress and depression (Emmons, Linnan, Shadel, Marcus, & Abrams, 1999). One definition of job stress is the physiological and psychological responses to excessive and usually unpleasant stimulation and to threatening events in the workplace (Ivancevich & Ganster, 1987). However, job stress is not a single context or a psychological state. Rather, it is a process which involves multiple interactions between psychological, physiological and environmental processes (Stansfeld & Candy, 2006; Theorell, 1997).

In a national survey of psychosocial job stressors conducted by Cheng Y. et al. (2001) in Taiwan, 7.6% of men and 6.5% of women had reported frequently feeling stressed at work. Employees who were younger, higher educated, working in a large firm and working long hours per week had higher levels of job stress. At present, a workplace mental health promotion program

has begun to receive attention in Taiwan (Lee, Lee, Liao, & Chiang, 2009). However, there is a lack of related information to solve or even improve employees' mental health in Taiwan. Firstly, not all the interventions are suitable in each worksite. Factors such as type of work, level of education and economic status might affect the effectiveness of interventions (Saxena, Jane-Llopis, & Hosman, 2006). Thus, the first step is to assess these factors in different kinds of workplaces. It is essential to check problems and define suitable interventions.

Worksite mental health promotion in health care professionals

"Can transformational leadership style be a health promotion intervention in health care setting?"

Besides job characteristics, it is well known that the environment also has an influence on health (Kanai-Pak, Aiken, Sloane, & Poghosyan, 2008). Poor working environment, whether physical or non-physical, can create conditions that encourage adverse health outcomes. For instance, sick building syndromes (SBS) are combination of ailments and caused by working in unhealthy workplaces (Letz, 1990). Negative working conditions can be significant predictors of employees' physical and mental health. Employees with lower job satisfaction, commitment and morale tend to report a more negative work environment than others (Lowe, Schellenberg, & Shannon, 2003). Similar findings were obtained showing that adverse workplace factors were associated with the worst mental health reported in hospital workers (Aust, Rugulies, Skakon, Scherzer, & Jensen, 2007).

Workplace health promotion is based on the improvement of employee health which includes physical, mental and social health. A worksite is a community and also an ideal location for health promotion due to the economic benefits for improving health and productivity (O'Donnell, 2002). Successful interventions do not only require individual behaviour change, but also environmental improvement, such as organisation change. The aim of organisational stress interventions is to adjust or change the environment in the workplace to fit the individual worker (O'Donnell, 2002). However, the majority of interventions are focused at the individual level and little research has examined interventions at the organisational level (Edwards & Burnard,

2003). The promotion of such workplace conditions can be part of an intervention plan in general. Jane-Llopis et al., (2005) stated that regulatory policies for the workplace have a positive impact on mental health. Strategies can include task and technical interventions, improving role clarity and social relationships, and interventions addressing multiple changes directed at both the workplace and employees. Thus, the main purpose of organisational change is to adapt or change the environment to fit the individual worker.

Organisational changes can be seen as a priority method to promote mental health in nurses. Considering that workplace mental health is heavily influenced by leadership style, the leadership style employed within the workplace would be of key importance. However, not all interventions are suitable in each worksite. Such factors as type of work, level of education and economic status might affect the effectiveness of interventions. It has been reported that transformational scores are affected by education level. The higher educational degree one has, the higher transformational scores tend to be. Therefore, transformational qualities may improve by further education training (Dunham-Taylor, 2000). At present, workplace mental health promotion programs have begun to receive attention in Taiwan. However, there is a lack of the related information to improve employees' mental health. More information needs to be provided in this area. Thus, this thesis poses the following question: could transformational leadership behaviour training be a suitable intervention method for improving nursing quality of working life in terms of mental health?

CHAPTER Two: Summary and Conclusion

This chapter outlined the present challenges of the health care system in the nursing profession. The chapter was classified into six sections, which discussed: a) nursing roles and challenges; b) leadership theories; c) contemporary theories; d) effective management in hospitals; e) leadership and organisational health; and f) mental health promotion in the workplace. The alternative solutions to promoting the mental health of nurses, apart from increasing hospitals' budgets, were illustrated. The importance of leadership has been addressed in this chapter. Leadership behaviour has a certain influence on the attitudes and work satisfaction of employees within organisations.

The next chapter focuses on mental health outcomes of nurses. Mental health outcomes such as job satisfaction, organisational commitment, stress, and burnout are discussed. Then, the reason why job satisfaction has been seen as an important element for organisational health is considered. By reviewing the existing literature, we will look for ways to improve organisational commitment and the relationship among work values, motivation and organisational commitment. Research problems and hypothesis are also stated in Chapter Three. Finally, the casual relations among these factors are described at the end of Chapter Three.

Chapter 3: Work related attitudes

Work attitudes are relevant to how employees feel about their work and their approach towards work. Work attitudes have a strong influence on the quality of nurses' working lives. Job satisfaction and organisational commitment are outcome variables of nurses' work attitudes. Both of these attitudinal variables relate to how employees perceive their work experience in their job and organisation. Therefore, in Chapter Three, work attitudes will be examined through these two concepts, namely, job satisfaction and organisational commitment.

Job satisfaction is how an employee feels about his or her job and how attached they are to the employing organisation and can be conceptualized as organisational commitment. Organisational commitment was defined as the strength of commitment related attitudes and behaviours in this study (Mowday, Steers, & Porter, 1979). These two concepts are of strong relevance to the quality of an employee's working life. In Chapter Two, the transformational leadership style of health care professionals and the influence it has on health care organisations was presented. The relationship between transformational leadership and mental health outcomes of nurses will be addressed in this chapter. Those factors relevant to job satisfaction and organisational commitment such as job content will also be discussed.

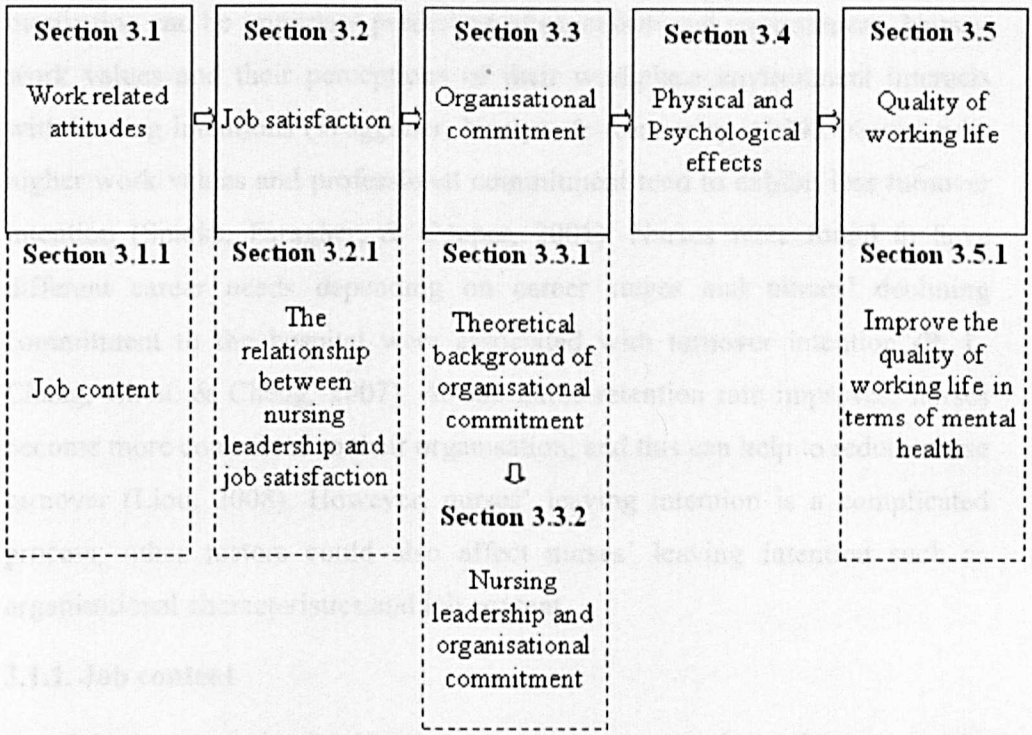


Figure 3.1 Chapter Three structure

3.1. Work attitudes and motivation

Attitudes are viewed as positive, negative or neutral perceptions of environment. Attitudes at work are important as well as its direct or indirect effect on work behaviours. Job satisfaction and organisational commitment are two of the most researched work attitudes. Thus, the main purpose of this chapter is to explore the concept of job satisfaction and organisational commitment in nurses and how nursing leadership is related to these two concepts.

Motivation is a basic psychological process. In a health care setting, nurses can be motivated by rewards (Chhea, Warren, & Manderson, 2010). The most common rewards are financial rewards or material rewards. However, besides these two types of rewards, is there another way to raise the work motivation of nurses. It has been suggested that nurses can also be motivated by psychological rewards (De Gieter, De Cooman, Pepermans, & Jegers, 2010). Work values and motivation are highly associated with organisational commitment (Elizur & Koslowsky, 2001). As a result, work values and

motivation can be important predictors of organisational commitment. Nurses' work values and their perceptions of their workplace environment interacts with leaving intentions (Waggoner, Neelya, & Kennerley, 1999). Nurses with higher work values and professional commitment tend to exhibit less turnover intention (Sparks, Faragher, & Cooper, 2001). Nurses were found to have different career needs depending on career stages and nurses' declining commitment to the hospital were associated with turnover intention (P. L. Chang, Chou, & Cheng, 2007). As the nurse retention rate improves, nurses become more committed to their organisation, and this can help to reduce nurse turnover (Liou, 2008). However, nurses' leaving intention is a complicated process; other factors could also affect nurses' leaving intention such as organisational characteristics and job content.

3.1.1. Job content

Job characteristics can have a strong impact on employees' psycho-social well-being (De Jonge et al., 2001). Karasek's model (1998) is used widely and explains the work attitude health outcomes such as job satisfaction, organisational commitment, psychological distress and well-being (Rodwell, Noblet, Demir, & Steane, 2009). Job performance is positively correlated with organisational commitment, job satisfaction and personal and professional variables. Both job satisfaction and organisational commitment are strong predictors of nurses' performance (Al-Ahmadi, 2009). In order to understand how these factors relate to each other and how these factors contribute to occupational mental health outcomes, job characteristics need to be considered. It has been reported that job characteristics were associated with work strain. High job demand and low decisional latitude might pose long-term health impairment (Fox, Dwyer, & Ganster, 1993; Landsbergis, 1988). To measure the job characteristics of Taiwanese nurses, items will include the Chinese Version of the Job Content Questionnaire (C-JCQ) based on Karasek's demand-control-support model to assess psychosocial work characteristics in this thesis. The C-JCQ is a standardised instrument for the measurement of perceived stress in the workplace. It has been used to explore the relationship between work demands and work related health outcomes.

Supervisor support is one of the dimensions based on Karasek's demand control support model. A cross-national study has shown that low social support from supervisor was one of the most consistent predictors of occupational strain across nationality (Pisanti, van der Doef, Maes, Lazzari, & Bertini, 2011). It made a point that a supervisor's behaviour might play a more dominant role in the process of occupational strain than other dimensions. Transformational leadership is one of the most effective leadership styles, which improves the performance of an organisation.

Transformational leadership style was associated with subordinates' psychological well-being through a mediating mechanism (Nielsen, Yarker, Brenner, Randall, & Borg, 2008). Work conditions associated with involvement and meaningfulness of job as mediators were correlated with job satisfaction and well-being. Employees being attached to their work and recognizing their work as meaningful experienced better mental health. Training managers in transformational leadership style may have a positive influence on health care workers' mental health over time (Munir & Nielsen, 2009). It may present an incomplete picture of the impact of work and relationships on well-being without considering working conditions. Transformational leadership only may not be effective if working conditions are not considered.

3.2. Job satisfaction

Job satisfaction can be seen as a kind of work attitude. It has been considered as one important indicator of a person's psychological well-being which is relevant to their job (Spector, 1997). Locke (1976) defined job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences". Thus, job satisfaction can be seen as a result of an employee's perception of how well their job provides a sense of purpose.

Brief (1998) noted that job satisfaction is "an internal state that is expressed by affectively and/or cognitively evaluating an experienced job with some degree of favour or disfavour". A person working with fair pay, good

promotional opportunities, a supportive supervisor, friendly colleagues, will be satisfied with his or her job as a consequent. Besides, work value can also be seen as a factor which has an independent effect on job satisfaction (Kalleberg, 1977). According to Super (1995), work values display an individual's attempt to meet his or her general needs. From his point of view, individual needs are more common than individual interests. Job satisfaction is an important factor as it reveals an impact on job performance, turnover intension, quality of patient care and organisational commitment (Alexander, Lichtenstein, Oh, & Ullman, 1998; Han, Sohn, & Kim, 2009; Leggat, Bartram, Casimir, & Stanton, 2010). Hence, job satisfaction was defined as the employees' attitude towards their working conditions in this thesis.

3.2.1. The relationship between nursing leadership and job satisfaction

Numerous studies have focused on the job satisfaction of nurses (C. S. Chang, Chen, & Lan, 2011; Duffield, Roche, Blay, & Stasa, 2011; Lacey et al., 2011; Levin, Fineout-Overholt, Melnyk, Barnes, & Vetter, 2011). Nurses with a higher level of job strain were found to be less committed to the organisation, and less satisfied with their work (Hasson & Arnetz, 2008; Laschinger, Finegan, Shamian, & Almost, 2001). Job satisfaction can be seen as a predictor of the quality of nursing working life. In contrast, job dissatisfaction can be a major predictor of intention to leave (Chen, Chu, Wang, & Lin, 2008; Larrabee et al., 2003; Shader, Broome, Broome, West, & Nash, 2001).

There is no doubt that nursing staff who are more satisfied with their work have a better quality of working life (Tanaka, Maruyama, Ooshima, & Ito, 2011). Nurses deliver care to patients. When the nursing staff are satisfied with their employment exhibit higher levels of patient satisfaction (Robbins & Davidhizar, 2007). It has been reported that leader behaviours were associated with job satisfaction both positively and negatively (Tsai, 2011; Yun, Cox, Sims, & Salam, 2007). Nursing leaders have the responsibility to create a healthy work environment and leadership style has been suggested as an important contributing factor in promoting better workplace health (Pearson, Laschinger, Porritt, Tucker, & Long, 2007). However, how does leadership influence staff satisfaction? A full investigation into the causal relationship

between leadership and job satisfaction in the health care sector is essential to create a mentally healthy work environment.

Transformational leadership style was associated with higher levels of job satisfaction (Malloy & Penprase, 2010). A correlation was found between nurse managers' transformational leadership style and nurse job satisfaction (Failla & Stichler, 2008). Transformational leaders may help ensure employees' job satisfaction and psychological well-being (Medley & Larochelle, 1995; Nielsen, Yarker, Randall, & Munir, 2009). Leadership style has been reported to be associated with mental health outcomes such as burnout (Corrigan, Diwan, Campion, & Rashid, 2002). The relation between leadership and burnout is complex, affected by situational factors of leadership and the ambiguous nature of burnout. Nurses of various ages, at different stages of their career and participating in different work fields require different kinds of leadership (Kanste, Kyngas, & Nikkila, 2007). Transformational leadership style is not only related to job satisfaction and well-being. It is also relevant to decreased burnout and overall stress in nurses (Weberg, 2010). Transformational leadership style have a positive association with leadership outcomes such as extra effort, leadership satisfaction, and effectiveness (Casida & Parker, 2011). Conversely, transactional leadership style has a negative association, excluding the positive transactional contingent reward attribute (Jeff, Douthitt, Ellis, Wade, & Plemons, 2008). Although a number of leadership studies have been developed, transformational leadership style is the dominant leadership style and it contributes highly to job performance and organisational effectiveness (Casida & Pinto-Zipp, 2008). A study examined the relationship between factors such as leadership style, span of control, nurses' job satisfaction and patient satisfaction in hospitals. The results suggest that in terms of leadership, transformational style is better than other leadership styles (McCutcheon, Doran, Evans, Hall, & Pringle, 2009). Although, it has been argued that no one type of leadership style fits all situations. However, transformational leadership can be seen as a good leadership. A good leadership means it can be learnt and it is possible to motivate employees to higher levels of personal achievement. In addition, physicians' satisfaction

with their leaders is associated with their leaders showing transformational leadership behaviour (Menaker & Bahn, 2008).

In Taiwan, nursing directors tend to display transformational leadership more frequently than other leadership styles in their workplaces and nursing faculty staff are moderately satisfied with their jobs (Chen & Baron, 2006). It is more likely that nursing deans and directors exhibit more transformational than transactional leadership and their subordinates are more satisfied with deans or directors (Chen, Beck, & Amos, 2005) and more committed to the organisation (McGuire & Kennerly, 2006). Transformational leadership style can lead to job satisfaction and nurse retention (Force, 2005). Factors such as a supervisor's transformational and contingent reward behaviours and intrinsic esteem motivators influence staff members' job satisfaction (Watson, 2009). A convenience sample of 233 nursing staff participated in a cross-sectional mailed survey study. Three key elements of transformational leadership, as well as idealized influence, intellectual stimulation, and contingent reward leadership styles, were found to significantly and positively predict job satisfaction. However, management-by-exception element of transactional leadership significantly and negatively predicted job satisfaction (Shieh, Mills, & Waltz, 2001). A higher retention rate was shown among nurses who were very satisfied with their leaders (Ribelin, 2003). As a result, nurses' satisfaction increased and effectiveness and extra effort also increased when nurses experienced transformational leadership strategies (Trofino, 2003). Nurses whose supervisors rated highly on transformational leadership were less likely to experience decreased job satisfaction (Bono, Foldes, Vinson, & Muros, 2007). Job satisfaction is one of the dominant factors predicting the quality of nursing working life. However, it is less stable and not so bound by time and space. Apart from job satisfaction, organisational commitment was also highly associated with the quality of nursing working life (Boonrod, 2009).

3.3. Organisational commitment

Organisational commitment has multiple definitions. Porter et al (1974) defined organisational commitment as being "a strong belief in and acceptance of the organisation's goals and values, a willingness to exert considerable effort

on behalf of the organisation, and a definite desire to maintain organisational membership". According to O'Reilly and Chatman (1986), organisational commitment was seen as "an individual's psychological bond to the organisation, involvement, loyalty and belief in the values of the organisation". Mowday, Steers, and Porter (1979) identified commitment related attitudes and commitment in terms of behaviour. Organisational commitment is a high level psychological and social attachment. Organisational characteristics are key factors in nurse attraction and retention. Nurses face difficulties in their work situations, but some hospitals are perceived as healthy organisations (Stordeur, D'Hoore, & Group., 2007).

A successful organisation depends heavily on employees' commitment. A nurses' career commitment is influenced by the nurses' characteristics and organisational factors in the workplace and these factors influence job performance (Mrayyan & Al-Faouri, 2008). Nurses' professional commitment can improve patient safety and patient-perceived quality of care (Teng et al., 2009). Organisational commitment to patient care is basic to patient satisfaction (Rosati, Marren, Davin, & Morgan, 2009). Therefore, improving nurses' job performance and their career commitment should produce positive outcomes for nurses and their patients and organisations. Organisational commitment, intention to leave, work experiences, job characteristics and personal characteristics can be useful concepts for predicting nurses' intention to leave (C. T. Kovner, Brewer, Greene, & Fairchild, 2009; Liou, 2009).

Organisations are diverse and organisational commitment is a complex construct. Figure 4 presents a concept model of organisational commitment. In the concept model of organisational commitment, three theoretical realisations, including affective, continuance, and normative, are presented. Meyer and Allen (1997) noted that affective organisational commitment is a belief or an emotional attachment to the organisation. Employees affective commit to work in an organisation with emotional attachment, identification, and involvement.

Employees with affective professional commitment and organisational commitment were significantly associated with intention to change professions. The other three factors (job satisfaction, organisational commitment and intention to change professions) were statistically significantly related to

intention to leave an organisation (Parry, 2008). Continuance commitment refers to the awareness of the cost associated with leaving an organisation and normative commitment reflects a feeling of obligation to continue employment. The relationship between employees and an organisation might show varying levels of all three commitment components (Bentein, Vandenberghe, Vandenberg, & Stinglhamber, 2005). Affective commitment was found to be positively related to job performance (Khan, Ziauddin, Jam, & Ramay, 2010; Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989).

Employees commit to work in an organisation improves the performance of the organisations such improvement as well as involvement and job satisfaction. However, organisational commitment is affected by various factors. The research on organisational commitment has shown that there is a wide range of variables associated with this concept, including job satisfaction, organisational climate, organisational citizenship behaviours, and leadership behaviours (Chiok Foong Loke, 2001; Kotzé & Roodt, 2005; Park & Yoon, 2009; Welsch, 1981). Emotional exhaustion of nurses also had a direct negative effect on organisational commitment (Cho, Laschinger, & Wong, 2006). In addition, it has been suggested in the nursing management literature that leader-empowering behaviours influence employees' perceptions significantly. A study (Chiu, Chung, Wei, & Yaung, 2003) explored the relationship between value congruence and organisational commitment in physicians across different types of hospitals in Taiwan. The results showed that when hospitals placed more emphasis on respect to employees than their expectations, the organisational commitment of physicians was higher. In the opposite way, organisational commitment was lower when hospitals placed more attention on items of hospital growth and perpetuity than employees' expectations. However, these findings did not address whether there are any differences in organisational commitment among different types of hospitals and any psychological health effects of work attitudes on this kind of relationship. In Chapter Five, the differences across hospitals and influences of ownership will be discussed.

3.3.1. Theoretical background of organisational commitment

Mowdays, Streers and Porter (1979) defined organisational commitment as "the relative strength of an individual's identification with and involvement in an organisation". This concept identifies three components: a desire to maintain organisational membership, a belief in and acceptance of the values and organisational goals, and a willingness to make a big effort on behalf of the organisation. Currently, measuring methods of organisational commitment are mainly undertaken using questionnaires. A number of questionnaires have been developed to measure organisational commitment (Balfour & Wechsler, 1996; Caldwell, Chatman, & O'Reilly, 1990; Cook & Wall, 1980; Marsden, Kalleberg, & Cook, 1993; Meyer & Allen, 1997). One of the main approaches to measure organisational commitment in health care professionals is the Organisational Commitment Questionnaire (OCQ). It has been used widely within cross-disciplinary fields.

The OCQ was developed by Mowday and colleagues (Mowday, et al., 1979). It is a 15-item questionnaire designed to describe global organisational commitment as a total commitment scale. It is the most common instrument to assess the type of effects on organisational commitment. However, how does organisational commitment relate to a person's experiences, attitudes, and behaviour at work? The organisational commitment model which is summarised by Arnold et al., (1998) might provide further information about this. It has been suggested that employee commitment can be nourished by providing positive experiences (Rhoades, Eisenberger, & Armeli, 2001). Numerous researchers have tried to distinguish which positive experiences matter most for organisational commitment (Herrbach, 2006; Meyer & Allen, 1987).

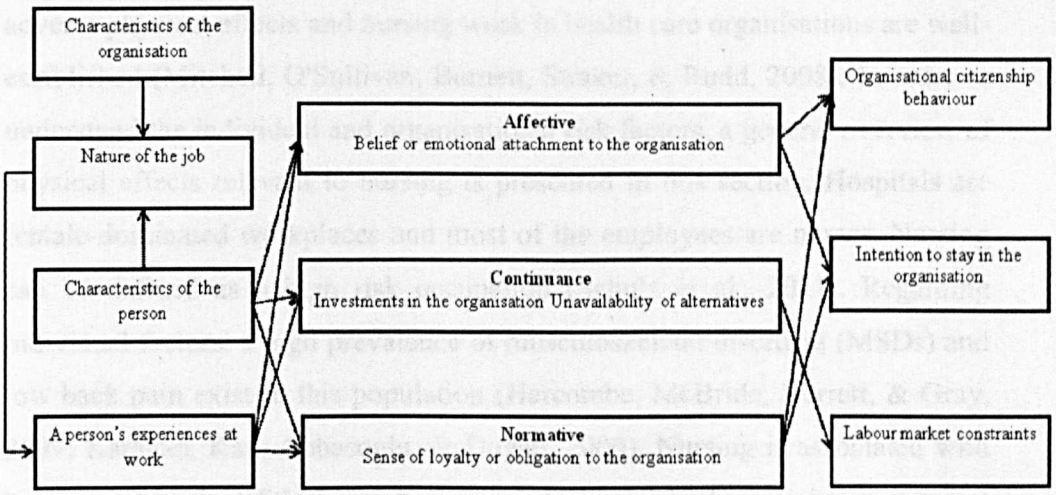


Figure 3.2 A three component model of organisational commitment (Meyer & Allen, 1991)

3.3.2. Nursing leadership and organisational commitment

Leadership is one of the critical factors for job satisfaction and organisational commitment (Bakker et al., 2010). Nurse leadership is in an important position which influences the organisational commitment of nurses. Nurse managers' behaviour is a significant variable that influences organisational outcomes (McNeese-Smith, 1995). It reflects that leadership styles have the ability to maintain organisational effectiveness. Thus, it is essential for first-line nursing leaders to achieve such knowledge and skills (Casida & Pinto-Zipp, 2008). Organisational support and transformational leadership behaviour were found to be positive predictors of affective and normative organisational commitment (Bamberg, Akroyd, & Moore, 2008). In addition, nurse-perceived emotionally intelligent leadership behaviour had a strong direct effect on organisational commitment (β=.61) (Young-Ritchie, Spence Laschinger, & Wong, 2009). With reviewing of nursing leadership literature, it is clear that nurse leader's transformational leadership style has a positive impact on organisational outcome.

3.4. Job Related Physical and Psychological effects

Physical effects

Nurses often encounter both physical and psychological impairment as a result of their job characteristics and working environment. The links between

adverse physical effects and nursing work in health care organisations are well-established (Mitchell, O'Sullivan, Burnett, Straker, & Rudd, 2008). In order to understand the individual and organisational risk factors, a general overview of physical effects relevant to nursing is presented in this section. Hospitals are female-dominated workplaces and most of the employees are nurses. Nursing can be defined as a high risk occupation (Schulz et al., 2011). Regarding individual factors, a high prevalence of musculoskeletal disorders (MSDs) and low back pain exist in this population (Harcombe, McBride, Derrett, & Gray, 2009; Karahan, Kav, Abbasoglu, & Dogan, 2009). Nursing is associated with heavy workloads. With the high physical demand job characteristics, it is not surprising that most nurses have reported experiencing physical illnesses due to their work. Occupational stress is one of the factors which are associated with physical ill-health. There is no certain solution for the prevention of physical illness in the workplace as it is a complex situation. Furthermore, it is affected by the characteristics of the work environment, content of the work, and individual perceptions. Thus, we are going to explore the contribution of the transformational leadership style in terms of prevention of physical harm to the individual.

Psychological effects

"Stress and Burn out"

In the United Kingdom., it is estimated that nearly three out of every ten employees suffer from mental health problems and several studies indicate high levels of job related stress among them (ILO, 2000). The National Institute for Occupational Safety and Health (NIOSH; U.S.) developed a national strategy for the prevention of work-related psychological disorders in 1990 for reducing job stress (Sauter, Murphy, & Hurrell, 1990). However, job related stress is still reported worldwide. In a national survey of psychosocial job stressors conducted by (Cheng, Guo, & Yeh, 2001) in Taiwan, 7.6% of men and 6.5% of women had reported frequently feeling stressed at work. Employees who were younger, higher educated, working in a large firm and working long hours per week had higher levels of job stress. In an international literature review from 17 countries of the role stress plays in nursing, the majority of studies focused on work environment factors. Such factors as low

job control, high job demands and low supportive work relationships were shown to be correlated with stress in nurses (Lambert & Lambert, 2001). A systematic review has also aimed to assess the effectiveness of current approaches to workplace stress management for nurses (Mimura & Griffiths, 2003). It suggested that there was more evidence for the effectiveness of personnel support than environmental management. Supervisor support has been suggested as one of the significant factors in keeping nurses satisfied in their work (C. Kovner, Brewer, Wu, Cheng, & Suzuki, 2006). Nursing supervision has a positive influence on nurses' well-being and coping with their stressful work situation (Begat & Severinsson, 2006). However, most research in this area has been conducted in western countries. Besides, the number of Taiwanese nursing leadership studies is limited and the effectiveness of the nursing leadership approach is still unclear. Therefore, further research is essential for the effect on work related stress of particular interventions in Taiwanese nurses to be evaluated. Both individual and organisational factors are associated with job related psychological effects. Regarding organisational factors, leadership regarding supervisor's behaviour is one of the key organisational factors related to adverse psychological effects (Stordeur, D'Hoore, & Vandenberghe, 2001). Employees, who have experienced poor psychosocial work environments, tend to display symptoms of burnout and have poorer general health status (Hayes & Bonnet, 2010; Merecz, Drabek, & Mościcka, 2009). However, is there any way to reduce job stress to improve mental health? It has been suggested that one solution that may help reduce job stress is a change in leadership style (Wang, Kong, & Chair, 2009).

The role of nursing leaders in a health care organisation is to keep an organisation functioning and promote a healthier psychosocial work environment. It has been suggested that transformational leadership is ideologically suited to nurses as well as having a positive effect on communication between leaders and nurses (Thyer, 2003). Implementation of transformational and contingent reward leadership behaviours would be an improvement in the nursing psychosocial work environment (Malloy & Penprase, 2010). Organisations can improve employees' well-being through

engaging in transformational leadership interventions in the workplace (Arnold, Turner, Barling, Kelloway, & McKee, 2007).

3.5. Quality of working life

Quality of working life is how people perceive their life related to work. Previous research has identified several factors which are highly correlated with health including personal lifestyles, smoking, exercise and psychological well-being. The relationship between work and health can be divided into direct and indirect relationships (Thomas & Ganster, 1995). These different kinds of relationships can be classified depending on such factors as hazards, risky behaviour and general work environment. There is no doubt that work and family are the two domains which influence employee satisfaction in life (Choi, 2008). Employees experience various sources of stress which are mainly related to family issues, work, and social setting. Therefore, it is not easy to define employee stress as a purely work-related problem. Although, stress sources cannot be classified clearly, work related stress have been suggested to be the most influential source in the nursing profession (Hipwell, Tyler, & Wilson, 1989). The cause of stress for nurse have been found to be associated with the nature of the profession (Ruggiero, 2005).

Work-related adverse health problems such as stress, depression, burn-out and chronic fatigue might cause absenteeism and accidents as consequences. This would increase a organisation's economic burden (Cooper, 2006). Thus, it is crucial to understand the main sources of stress for different kinds of employees and how to solve these problems. Health related quality of life in nurses was lower compared with other health care professions (Tountas et al., 2003). Those high risk factors such as occupational stressors, personal strain and burnout are negatively correlated with one's health related quality of life. Conversely, coping resources are positively associated with health related quality of life. Thus, occupational stress, job burnout and coping resources have a certain contribution to the health related quality of working life of nurses (Wu et al., 2011) . In order to investigate the general health status of nurses, the General Health Questionnaire (GHQ-12) was applied in this thesis

as it is a standardised instrument to measure health status and widely used in Taiwanese nurses.

In hospital nurses, mental health status and quality of sleep can be poor. Poor mental health and shift work have been shown to be important factors which contribute to medical errors (Arimura, Imai, Okawa, Fujimura, & Yamada, 2010). Shift work was also related to psychological distress, low job involvement and low work ability (Elovainio, Kuusio, Aalto, Sinervo, & Heponiemi, 2010). However, this seems difficult to change as shift work is one of the essential requirements of nursing, especially in a hospital setting.

3.5.1. Improving the quality of working life in terms of mental health

"Is there any way to improve the quality of working life in terms of mental health?"

Quality of working life is a complex concept and it can be seen as how employees experience their work. Existing research on the quality of nursing working life in hospitals has focused on how nurses perceive their work environment (Van Laar, Edwards, & Easton, 2007). Leadership is one the factors which can influence emotions. Employees with leaders displaying greater transformational leadership may experience more positive emotions through the workday (Bono, et al., 2007). Improving the quality of working life of employees may be a long-term approach to improving nurse retention (Gifford, Zammuto, & Goodman, 2002). Along with perception, job satisfaction and organisational commitment is a very important part of understanding the influence of nursing leader's behaviour. Numerous studies have demonstrated associations between leader's behaviour and employee psychological well-being in the nursing profession. However, the causal relations among nursing leadership style and those variables known to affect well-being in Taiwanese nurses remain unclear. In addition, most of the studies have not demonstrated a comprehensive overview of work-related and mental health well-being variables in health care professions. Studies examining the perceptions of leadership style from both leaders and nurses within hospital settings are also limited. Thus, the purposes of this thesis is to explore leadership styles in hospitals and further research the relationship between leadership styles and mental health outcomes of nurses in Taiwan. Based on

the literature review discussed above, this thesis aims to address the following objectives:

a) Describe mental health promotion legislation in hospitals;

b) Describe the meaning of nursing leadership style;

c) Identify good practice of nursing leadership style;

d) The influences of nursing leadership on nursing outcomes;

e) Identify the major components of a successful organisation that support nursing and how to implement these components into the leadership style;

f) To explore leadership styles within nursing and the influence of these leadership styles on the quality of nurses' working lives.

In order to address those research objectives, two studies were conducted in this thesis. In Study One, it presents a finding from a qualitative study. The aims of Study One are exploring the background of mental health legislations currently and leadership style in Taiwanese hospital through interview with hospital's representatives. The aims of Study Two are to investigate the relationship between nursing leadership, work characteristics, job satisfaction, organisational commitment, and health well-being among Taiwanese nurses. Study One and Study Two will be presented in Chapter Five and Chapter Six, respectively.

CHAPTER Three: Summary and Conclusion

This chapter outlined attitudes relevant to work and how nurses can be motivated to achieve organisational goals. Work attitudes can be seen as a cause of behaviour. Job satisfaction and organisational commitment are outcome variables of nurses' work attitudes. These two variables are presented as the nurse who satisfy with the job on an individual level (job satisfaction) and commit to the organisation on an organisational level (organisational commitment). Job satisfaction and organisational commitment focus on the process by which nurses come to think about their relationship with their job and the organisation. These two factors are defined as moderators between job nature and mental health well-being of nurses in this thesis. Employees who have a higher level of job satisfaction tend to have a higher level of mental health well-being. In addition, similar results were found in the relationship between organisational commitment and work-related mental health outcomes. These two factors might have buffering effects on the mental health well-being of nurses. Thus, we aimed to examine the relationship of the moderator effect among job nature, job satisfaction, organisational commitment, and mental health well-being. This chapter was classified into five sections, which discussed: a) job satisfaction; b) organisational commitment; c) physical effects; d) psychological well-being; and e) the quality of working life. First, the relationship between nursing leadership and job satisfaction was discussed. The dynamic mechanism between transformational leadership style and job content in health care settings was described. The psychological well-being of nurses was also described in this chapter. Then, the process from employee level to management level, which is how work values affect organisational achievement, was introduced. Finally, the research objectives of this thesis were stated at the end of Chapter Three. The following chapter is based on these research objectives.

Chapter 4: Research Strategy: Overview

4.1. Introduction

As previously noted, through a narrative review of the literature on nursing leadership style, different concepts are used to refer to leaders' behaviours as well as leadership style. A number of leadership theories were introduced in Chapter Two. Based on the above narrative literature review, the research questions of the present research are posed in Chapter Three. This chapter focuses on research design and methodology issues. In Chapter Four, the selection of research methods will be explained step by step. Triangulation of the research design is employed in the thesis which is defined as the mixing of methods. It has been suggested that a mixed methods design is useful to capture the best of quantitative and qualitative approaches (Creswell, 2003). Thus, two studies (Study One and Study Two) were conducted based on the research questions and tested the research hypothesis. Study One will also be presented in Chapter Five. Descriptions of how to explore the research objectives by applying both qualitative and quantitative study designs together will be presented. In Study One, a qualitative design was used to explore participants' opinion about internal mental health legislation and what kind of leadership styles they considered to be preferable. Semi-structured interviews with open-ended questions were conducted individually so that participants could express their views freely.

The results of Study Two will be presented in Chapter Six.

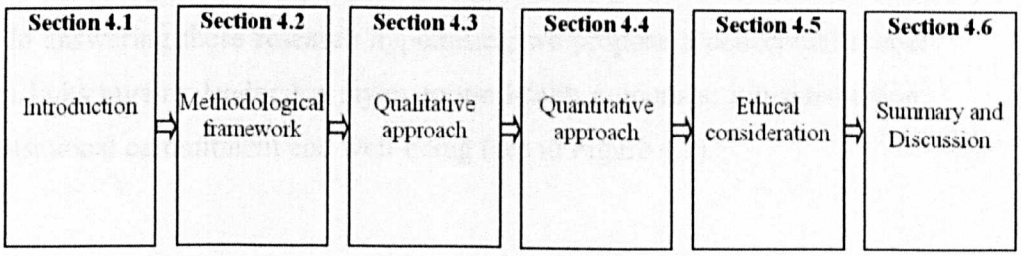


Figure 4.1 Chapter Four structure

Research Questions

With limited empirical findings and taking into consideration the influences in nursing leadership as a starting point, research hypotheses were developed from the literature on transformational leadership style, job content, organisational commitment, job satisfaction and general health well-being. Seven research hypotheses are proposed.

Hypothesis 1: The higher the level of transformational leadership the higher the level of perceived supervisor support.

Hypothesis 2: The higher the level of supervisor support will exhibit a higher level of job satisfaction.

Hypothesis 3: There will be a positive correlation between supervisor support and organisational commitment.

Hypothesis 4: The higher the level of job satisfaction, the higher the level of organisational commitment.

Hypothesis 5: The higher the level of job satisfaction, the lower the level of poor general health well-being.

Hypothesis 6: The higher the level of organisational commitment, the lower the level of poor general health well-being.

Hypothesis 7: Transformational leadership styles are related to nursing mental health outcomes.

In answering these research hypotheses, we propose a conceptual model which links nursing leadership styles to the health outcomes; job satisfaction, organisational commitment and well-being (see in Figure 4.2)

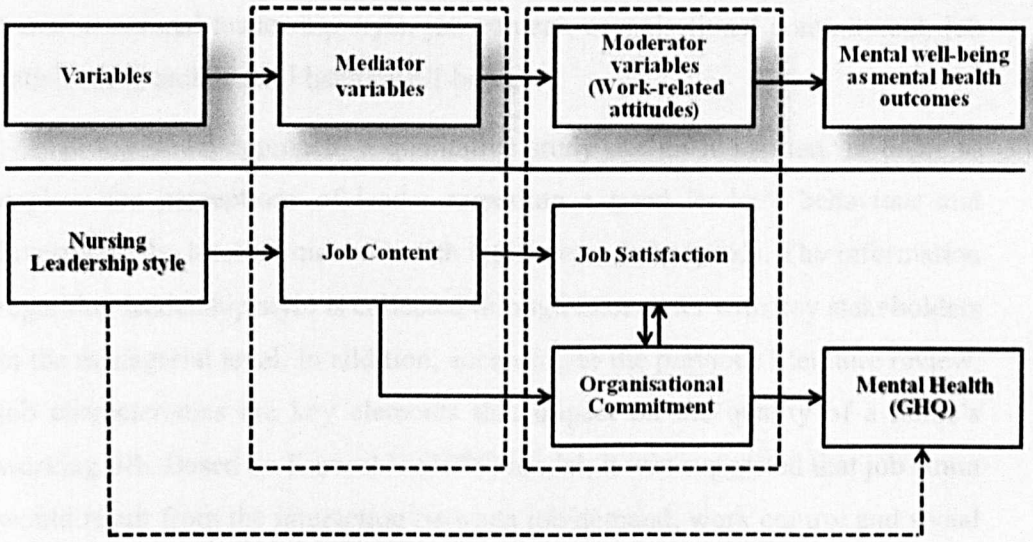


Figure 4.2 Conceptual model of the relationship between leadership and mental health outcomes

Conceptualization of key elements

A conceptual framework was developed which combined top-down and bottom-up approaches. According to the research purposes, we aim to investigate the quality of nurse's working life and the influences of leaders' behaviour in hospital settings. In this thesis, the quality of nurses' working life is assessed by the general health well-being reported by nurses. It has been suggested that quality of working life is conceptually similar to general health well-being (Lawler III, 1982). However, work-related factors, such as job satisfaction and organisational commitment, also fairly reflect the perception of general health well-being. Thus, we propose that these two factors might act as moderator variables in the relationship between job characteristics and quality of working life. In this thesis, two approaches are conducted. According to the research purposes, we assume that transformational leadership style would have either a negative or positive influence on general health well-being of nurses, and that the relationship would be mediated by social support in the organisational system. In addition, the effects of transformational leadership style on general health well-being of nurses are buffered by job satisfaction and organisational commitment. Following this line of assumption, these key variables in the conceptual model are carried out from five dimensions as

transformational leadership style, job content, organisational commitment, job satisfaction, and general health well-being.

In top-down approach, a qualitative study design is applied. In order to explore the perceptions of leader regarding a good leader's behaviour and investigate the internal mental health legislations in hospitals. The information regarding leadership style is collected through interviews with key stakeholders in the managerial level. In addition, according to the previous literature review, job characteristics are key elements that impact on the quality of a nurse's working life. Based on Karasek's (1979) model, it was suggested that job strain would result from the interaction between job demand, work control and social support. Thus, job characteristics are considered as elements used to evaluate the impact of the working environment on the quality of a nurse's working life. Job satisfaction would also have an impact on nurses' mental health well-being and the quality of the working life of nurses (Boonrod, 2009). Job satisfaction can be seen as an outcome of satisfaction with different aspects of a job and the working environment. Similarly, organisational commitment can be referred to as the commitment that employees express towards their organisation. Therefore, by understanding how nurses perceive the behaviour of their leaders might show how leadership affects the mental health outcome of nurses. Thus, we aimed to collect data through self-report questionnaire survey from hospital nurses. The hospital nures were defined as the individual base elements of health care organisation in the present study. These elements are specified in great detail and then linked together to form higher level systems. In bottom-up approach, a quantitative design is used. In this approach, key elements were defined from five concepts: nursing leadership style, job nature, job satisfaction, organisational commitment and general health well-being. Based on the research hypothesis, we proposed a conceptual model of the relationship between leadership and mental health outcomes (see in Figure 4.2).

The conceptual model presents a comprehensive overview which is then linked to the research hypotheses. To evaluate the effects of the conceptual model, a structural equation modelling analysis was employed to test the research hypotheses. The following hypotheses examined the main effects of transformational leadership styles on nursing mental health outcomes:

Hypothesis 1: Transformational leadership styles are related to nursing mental health outcomes.

The concept of transformational leadership

Transformational leadership is one of the contemporary leadership theories and has been widely used to investigate the behaviours of leaders. Bass's full-range leadership theory was suggested as it demonstrated a comprehensive overview of leaders' behaviours. Thus, the concept of nursing leadership style was carried out from Bass's full-range leadership theory. Both transformational and transactional nursing leadership styles are examined. From the previous literature review, it has been showed that both transformational and transactional nursing leadership have positive influences on the quality of nurses' working lives. However, there is a gap in the interaction between how nurses perceive their leaders' behaviours and how their leaders' behaviours affect the quality of nurses' working lives. There is a need to understand more about the relationship between nursing leadership style and the quality of nurses' working lives. From the perception of nurses, the interaction between nursing leadership style and the quality of working life was examined through a conceptual model (see Figure 4.2).

Training managers in transformational leadership style may have a positive influence on health care workers' mental health over time (Munir & Nielsen, 2009). However, the effect of leadership on mental need to be considered in relation to working conditions, as this is a potentially influential factor (Nielsen et al., 2008). Therefore, job content is also included as one of the variables in the proposed model.

The concept of job content

Working environment has been suggested to have a strong impact on the quality of nurses' working lives (Van Laar, Edwards, & Easton, 2007). According to Karasek's demand–control-support model (R. Karasek et al.,

1998), the interaction between job demand, work control and social support can be used to measure the influence of the working environment on the quality of nurses' working lives regarding the perceptions of the nurses. In the present study, we assumed that job characteristics might play a mediating role between nursing leaders' behaviours and how nurses feel about their job.

According to Karasek's theoretical model (1979), job demands and work control are two important work environment elements. In Karasek's demand–control model approach, high job strain is viewed as the consequence of an individual's inability to cope with high job demands under conditions of low control. However, Payne and Fletcher (1983) stated that less effort is needed to cope with high job strain if support is available in an organisational system. This model by Karasek (1979) was reconceptualised to include social support and was used widely to measure work characteristics and job strain. It has been suggested that high levels of support from supervisors and co-workers play a moderating role against the negative effects of high strain jobs on levels of work performance (Sargent & Terry, 2000). It makes the point that supervisors have great influences on employees' mental health. In addition, supervisor support might play a mediating role on quality of working life. Thus, it might be possible to improve organisational health by enhancing the leadership style of supervisors.

Hypothesis 2: The higher the level of transformational leadership, the higher the level of perceived supervisor support.

The concept of job satisfaction

Job satisfaction can be seen as a result of how well employees feel about their job and also conceived as overall rating of job characteristics (Tella, 2007). Job satisfaction is a factor which has an important contribution to the quality of nurse's working life. It has been suggested that job satisfaction is a predictor of the quality of nursing working life (Larrabee et al., 2003). In contrast, job dissatisfaction can be the main predictor of intention to leave nursing

There are many measures of job satisfaction. Most instruments involve questions or statements first asking respondents to indicate how they feel about their job in general, and then specific aspects of as to the style of supervision that their superiors use. In the present study, the job satisfaction scale of the Occupational Stress Indicator (OSI; Cooper, Sloan, & Williams, 1987) was employed.

Hypothesis 3: The higher the level of supervisor support will exhibit a higher level of job satisfaction.

The concept of organisational commitment

Organisational commitment is defined as the level of psychological and social attachment an individual has to an organisation. Organisational characteristics are key factors in nurse attraction to the job and retention. A number of questionnaires have been developed to measure organisational commitment (Balfour & Wechsler, 1996; Caldwell, Chatman, & O'Reilly, 1990; Cook & Wall, 1980; Marsden, Kalleberg, & Cook, 1993; Meyer & Allen, 1997). One of the main approaches to measuring organisational commitment in health care professionals is the Organisational Commitment Questionnaire (OCQ). It has been widely used in cross-disciplinary fields. The OCQ was developed by (Mowday, Steers, & Porter, 1979). It is a 15-item questionnaire designed to describe global organisational commitment. It is the most common instrument used to assess the type of effects from organisational commitment. In addition, Mowday et al. (1979) have presented strong evidence for the internal consistency, test-retest reliability, and convergent and discriminant validity of the OCQ. Therefore, the levels of organisational commitment were measured with the OCQ. A seven point Likert scale ranging from strongly disagree (0) to strongly agree (6) was used to indicate participants' degree of commitment.

Hypothesis 4: There will be a positive correlation between supervisor support and organisational commitment.

Hypothesis 5a: The higher the level of job satisfaction, the higher the level of organisational commitment.

The concept of quality of working life

Quality of nurses' working lives was conceptualised as of mental health outcomes. This concept is the view that quality of nurses' working lives is a psychological state that characterised the nurse's mental health outcome with the work. In the present study, the nurses' mental health outcomes were described as the mental health well-being of nurses. The quality of nurses' working lives was measured in terms of their mental health well-being status related to their job. The 12-item General Health Questionnaire (GHQ-12; Goldberg & Williams, 1988) was developed to measure non-specific psychiatric disorders. The GHQ-12 (Chinese version) has been tested and validated in Chinese societies (Pan & Goldberg, 1990). In the present study, the 12-item GHQ was applied to measure the perception of the nurses regarding their health status. Responses were coded by using an un-weighted four-point Likert method (0-1-2-3).

Hypothesis 5b: The higher the level of job satisfaction, the lower the level of poor general health well-being.

Hypothesis 5c: The higher the level of organisational commitment, the lower the level of poor general health well-being.

4.2. Methodological framework

In light of the exploratory and multidisciplinary nature of this research, triangulation methodology was employed. Triangulation methodology uses two or more distinct methods to investigate the research questions. For organisational researchers, triangulation methodology would involve the use of multiple methods to examine the same dimension of a research problem (Jick, 1979). In this research, the combination of qualitative and quantitative methods

was chosen. Taken together, some qualitatively described while others quantitatively represented as complementary. For qualitative methods, the perception and the influence of leadership styles were studied by interviewing the key stakeholders in managerial level in hospitals. For quantitative methods, a self-administrated questionnaire was applied as survey research. The self-administrated questionnaire which involved five dimensions was used to survey the perception of nurses at the employee level. A framework of this research interaction is presented in Fig. 4.3.

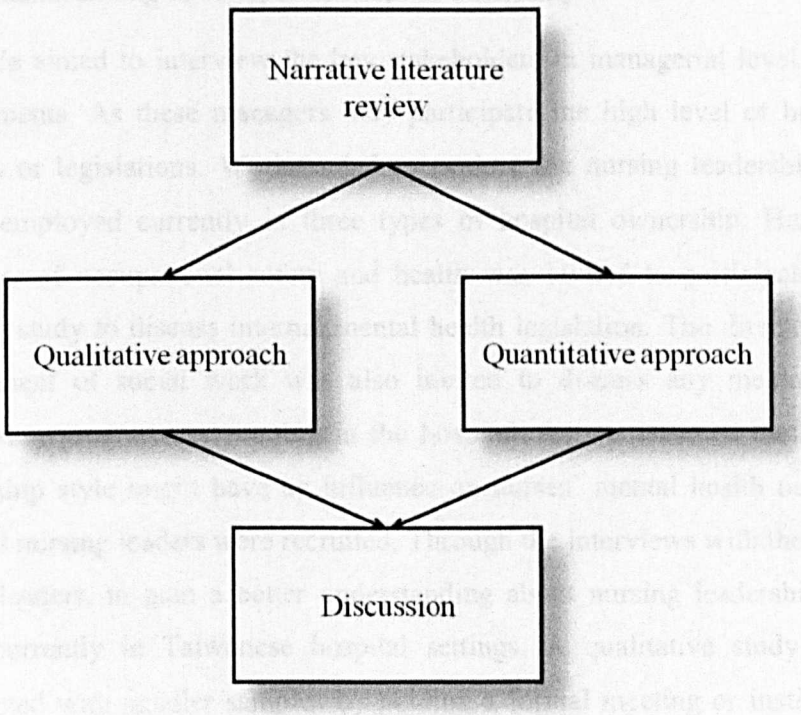


Figure 4.3 Interaction of studies

4.3. Qualitative approach

The qualitative research methodology is suggested and widely employed to exploring directional findings. In order to know the current mental health promotion legislation in hospitals, we proposed a qualitative study in which interviews were conducted in hospitals with key stakeholders. As internal legislations may not be released to the general public, we intended to explore issues regarding internal legislations within the interviews. It can provide the

understanding and the knowledge of internal mental health promotion legislation in hospitals through the key stakeholders own thoughts. As the qualitative study is seeking the mental health issues of nurses through interviews with the key stakeholders in hospitals. However, the key stakeholders who may not be fully understood about the issues and this may be a bias in this study. Therefore, the sampling method of the key stakeholders needs to be considered in order to avoid potential bias in the findings. In addition, the perceptions of the key stakeholders may differ in different setting. In the present study, we intended to interview key stakeholders in different departments among three types of hospital ownership.

We aimed to interview the key stakeholders in managerial level in their departments. As these managers may participate the high level of hospital's actions or legislations. We intended to explore the nursing leadership styles being employed currently in three types of hospital ownership. Hence, the manager of occupational safety and health was invited to participate in the present study to discuss internal mental health legislation. The director of the department of social work was also invited to discuss any mental health promotion programmes running in the hospital. As we assumed that nursing leadership style might have an influence on nurses' mental health outcomes, clinical nursing leaders were recruited. Through the interviews with the clinical nurse leaders, to gain a better understanding about nursing leadership styles used currently in Taiwanese hospital settings. A qualitative study can be conducted with smaller samples by holding a formal meeting or instigating a casual conversation. In the present study, it was conducted with schedule interview. The study conducted in the qualitative phase of the present study explored the findings from qualitative study provide a basis for Study Two. Our interview schedule (see appendix B) was designed in accordance with Bass's transformational leadership theory.

The transformational leadership style is one of the most famous leadership styles and has been widely used and discussed cross disciplinary research. Thus, an interview schedule is built which involved the key elements of transformational leadership. These key elements of transformational leadership are build trust, acts with integrity, inspires others, encourages innovative

thinking, coach people and individual consideration. An unstructured interview was suggested to be the best technique for discovering the perceptions of the key stakeholders, as it avoids the bias of leading questions. However, an unstructured interview may not be suitable for assessing key stakeholders' understanding of internal mental health legislations and leadership style. It is expected the key stakeholders' knowledge of the internal mental health legislations would be similar, as they are in different job positions but work in the same hospital. It is necessary to investigate the current status of internal mental health legislations and leadership style in hospitals. Therefore, structured interviews were employed in Study One.

4.4. Quantitative approach

In order to know the perceptions of nurses in terms of their mental health outcomes and transformational leadership styles, we conducted Study Two with a quantitative design. In Study Two, we aimed to determine the relationship between nursing transformational leadership style and mental health outcomes of nurses among three types of hospital ownership. The variables in the conceptual model were defined as transformational leadership style job nature, job satisfaction, organisational commitment and general health well-being. These variables were measured in order to estimate the relationship between all parameters. In addition, the hospital's ownership may have an influence on these variables. Thus, the aim of this study is intended to recruit the key stakeholders from hospitals which involved four levels of accreditation and three types of hospital ownership. Each step of research design needs to be concerned from sample selection, instrument using, pilot study and data analysis. The general overview of research methodology issues will be given in this chapter and a further description of the research design will be presented in Study Two.

4.5. Ethical considerations

Prior to conducting any research, it is important to follow ethical guidelines to ensure that participants are not harmed and have fully understood

the research requirements. In the present study, an ethics submission form was completed and submitted to the Ethics Committee within the Institute of Work, Health and Organisations in the University of Nottingham to seek ethical approval (see Appendix E; I-WHO Ethics Committee Approval). In addition, the participants are recruited from Taiwan. Thus, it was necessary to seek ethical approval from Taiwan. After the approval letter from the I-WHO ethics committee was received, the approval from the Institutional Review Broad (IRB, Taiwan) was applied (see Appendix F; IRB Approval, Taiwan). The present study was assured by both the I-WHO Ethics Committee and the IRB that appropriate steps were taken to protect the right of the participants.

Informed consent

The researcher is responsible for explaining the purpose of the research to the participants. All of the participants were asked to sign informed consent sheets (see Appendix C; Participant consent form for research study) before participating in the research. The participant consent form sheet fully explained the aims of the research. It explained that the content of the questionnaire would not be disclosed to anyone outside the research team and would not be used for any other purposes. The consent form required participants to state that he/she agreed to participate in the present research. Participants had the right to withdraw from the present study at any time without giving any reasons.

Anonymity and confidentiality

Any materials used in project reports or academic reports were used anonymously and participants could not be identified in any way.

All personal information provided by participants remained confidential.

4.6. Summary and Conclusion

As the aim of this study is emphasised in the influences of transformational nursing leadership styles and the mental health outcomes of nurses, two studies (Study One and Study Two) were conducted to explore the current status of mental health promotion activities in hospitals and to estimate

the relationship between variables which have been proposed in this chapter. Both qualitative and quantitative approaches were introduced in this chapter. A further discussion on these two approaches is found in the following chapter.

Chapter 5: Study One: Organisational structure and nursing leadership style among three types of hospitals in Taiwan

As previously noted through a comprehensive literature review, different concepts are used to refer to leaders' behaviours as well as leadership style. A number of leadership theories were introduced in Chapter Two. The relationship between transformational leadership and mental health outcomes of nurses was addressed in Chapter Three. In Chapter Four, the selection of research methods will be explained step by step. Thus, this chapter focuses on the research design and methodology issues within the present study. Study One will also be presented here. Descriptions of how to explore the research objectives by applying both qualitative and quantitative study designs together will be presented.

In Study One, a qualitative design was used to explore participants' opinions about internal mental health legislation and what kind of leadership styles they considered to be preferable. This was explored through semi-structured individual interviews with open-ended questions in order to understand the participants' perceptions about.

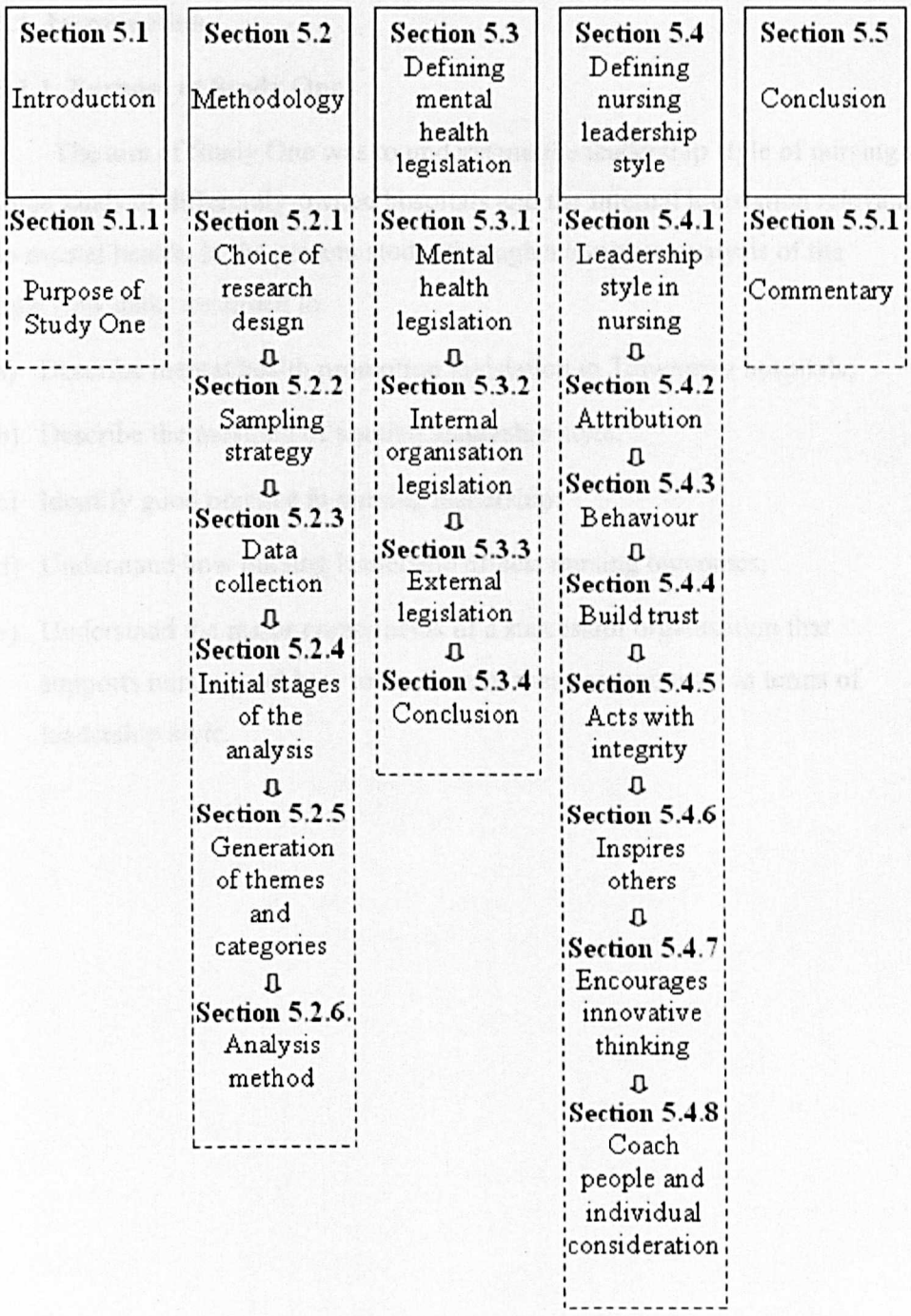


Figure 5.1 Chapter Four structure

5.1. Introduction

5.1.1. Purpose of Study One

The aim of Study One was to understand the leadership style of nursing in three kinds of differently-owned hospitals and the internal legislation relevant to mental health. In the present study, through a template analysis of the interview data, we aimed to:

a) Describe mental health promotion legislation in Taiwanese hospitals;

b) Describe the meaning of nursing leadership style;

c) Identify good practice in nursing leadership;

d) Understand how nursing leadership affects nursing outcomes;

e) Understand the major components of a successful organisation that supports nursing and how to implement these components in terms of leadership style.

5.2. Framework

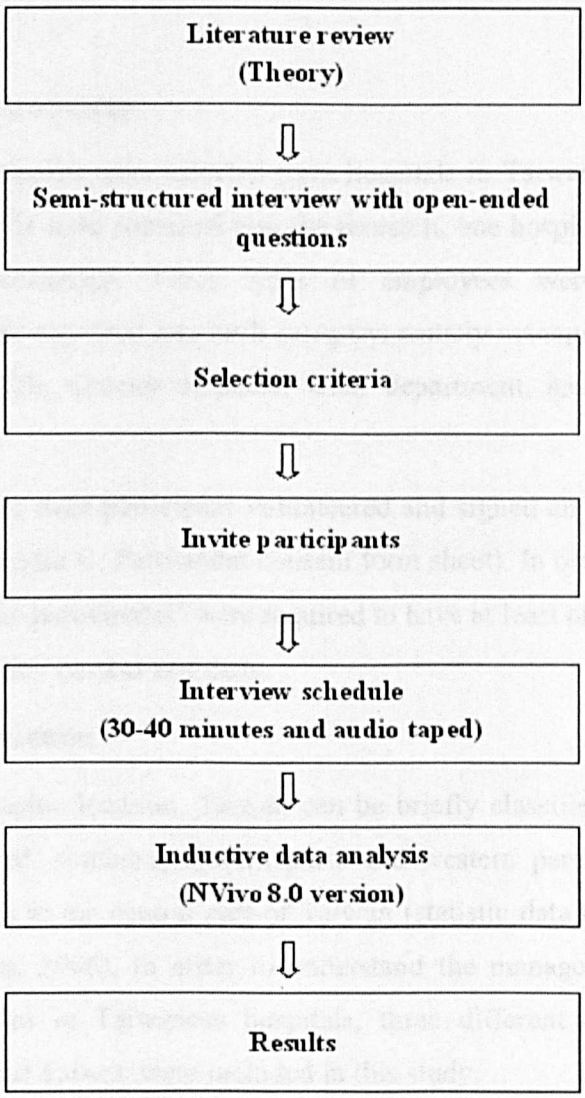


Figure 5.2 Framework of Study One

5.2.1. Choice of research design

This was a cross-sectional and qualitative study. Data was collected at one point in time and information was obtained through face-to-face semi-structured interviews with open-ended questions (see Appendix A and B; English version of the invitation letter and interview schedule sheet). The contents of the interview sheet consisted of five sections: demographic information, information regarding internal organisation legislation, understanding of the Labour Safety and Health Act (announced in 1974; Taiwan), general view of nursing issues, and leadership styles in nursing. The

qualitative phase of the study explored issues that are important for the fundamentals of Study Two. Further details will be addressed in the following section.

5.2.2. Sampling strategy

The participants were selected from hospitals in Taiwan. A total number of three hospitals were recruited into the research, one hospital from each type of hospital ownership. Three types of employees were identified and individuals were recruited into each category, namely manager of occupational safety and health, director of social work department, and clinical nursing leader.

In addition, each participant volunteered and signed an informed consent form (see Appendix C; Participant consent form sheet). In order to be included in this study, the participants' were required to have at least one year's working experience in their current hospitals.

5.2.3. Data collection

By geographic location, Taiwan can be briefly classified into five parts, northern, central, southern, eastern parts and western parts. There are four medical centres in the central part of Taiwan (statistic data by Department of Health, Taiwan, 2006). In order to understand the management system and leadership styles in Taiwanese hospitals, three different types of medical centres in central Taiwan were included in this study.

Firstly, face-to-face semi-structured interviews were used with the hospitals' managers. The in-depth semi-structured interviews were conducted in Taiwan in 2008. The interview schedule consisted of five sections, which included demographic data, internal organisation legislation information, understanding of Labour Standard Act (announced in 1984, Taiwan), a general view of nursing, and leadership styles in nursing. All the interviews were recorded on tape.

5.2.4. Initial stages of the analysis

All interview recordings were transcribed. Template analysis was used to analyse the data. The qualitative data analysis software NVivo 8 was used to

perform thematic coding on the transcripts and organise qualitative material. The coded text was sorted into an initial coding (free nodes) and each node was given a heading with relevance to the category.

5.2.5. Generation of themes and categories

Template analysis is a way of thematically analysing qualitative data. Applying template analysis is appropriate to compare the experiences of management between the different groups. Template analysis was used to create an initial template, which summarises themes based on the research objectives of this research. Once any priori themes were defined (free nodes), the first step of analysis was to begin reading through the data. Within each broad theme, more specific categories were generated (tree nodes). Text in free nodes was linked into tree nodes, which help describe relationships between each of the categories. Template analysis is useful for exploring relationships within data. In this study, quotes are compared between three different ownership hospitals of stakeholders.

In the final template, the patterns will be developed according to the ownership of hospitals. A summary of the data with each theme and discusses the findings of the research were revealed according to the similarities and uniqueness of the three groups in this chapter.

5.2.6. Analysis method

There is a wide range of analytic techniques that have been applied in qualitative study, such as content analysis, template analysis and grounded theory. The term of template analysis refers to a particular way of thematically analysis and has a priori theme. A priori theme identified by researcher as important to explore in a dataset. In Study One, template analysis was used. There were two priori themes in Study One including 'mental health legislation' and 'leadership style in nursing'. With a hierarchical coding structure, nine sub-themes emerged within the themes. These sub-themes included: internal organisation legislation; external legislation; attribution; behaviors; builds trust; acts with integrity; inspires others; encourages innovative thinking; coaches people and individual consideration.

Participant characteristics

The participants' characteristics are summarised in Table 5.1.

Table 5.1 Demographic data of the participants in different ownership of hospital

Variable		Public hospital (N=5)	Private hospital (N=7)	Religious hospital (N=9)	Total (N=21)
Age	(years)	31-53	32-43	30-51	30-53
Gender	Male	1	1	2	4
	Female	4	6	7	17
Work experience	(years)	21.4	9.8	12	13.5
Education level	Diploma	1	1	0	2
	Bachelors	2	3	5	10
	Masters	2	2	3	7
	Ph. D	0	1	1	2

In a sample of 21 participants who completed the interview, four were male and seventeen were female; five were from a public hospital, seven were from a private hospital and nine were from a religious hospital. All nurses including nurse supervisor, head nurse, and ward sister in this study were female. The average number of years of experience was 13.5 years and the average age of participants was 39.5 years. In terms of educational levels, two held doctorates, seven were enrolled in master's degrees, ten were enrolled in bachelor's degrees, and two held diplomas.

Characteristics of the three types of hospital

Currently, the Taiwanese hospital is characterised by various types of ownership. Regarding the definition from the Department of Health (DOH, Taiwan), there are three types of hospitals that can be classified briefly as private not-for-profit, publicly supported and private for-profit. The ownership is different among these three types of hospitals. Private hospitals run as free commercial enterprises. Not-for-profit hospitals were usually founded by voluntary or religious groups. In this study, non-profit hospitals were run by churches. Publicly supported hospitals include those operated by the government, such as county health departments and complex medical centres

operated by the Veterans Administration. In this study, we examined nursing leadership style in three different ownership medical centres in the central part of Taiwan.

Information about job position and duty

Twenty-one in-depth interviews were held with nurse supervisors, heads of nursing, leaders of nurses, directors of social workers, social workers, and managers of occupational safety and health from three different kinds of hospitals. The details of duty are shown in Table 5.2.

Table 5.2 Information on job position and duty description

JOB TITLE	DUTY DESCRIPTION
Manager of occupational safety and health	The employees in this department need to manage and check the working environment safety and health. The job contents are as follows: 1. Setting up occupational accident prevention programmes. 2. Planning and supervising labour safety and health management in each department. 3. Planning and supervising regular checks for all the facilities. 4. Arranging and ensuring the workplace is regularly assessed. 5. Planning and supervising labour safety and health education training. 6. Planning labour health examination and health management programmes. 7. Supervising occupational injury surveys and doing occupational injury statistic recordings. 8. Providing reports and suggestions to employees about labour safety and health management data. 9. Other tasks relevant to labour safety and health.
Director of social worker department	A director of social worker department in the hospital needs to evaluate the performance of subordinates and operate training programmes. A director needs to assist their subordinates to solve their work-related problems and formulate the department's annual budget.
Nurse supervisor	This position sits under the director of nurses in a nursing department. Their main duty is to manage head nurses. They do not have to perform clinical care and the majority of things they do involves administration work which is relevant to nurses and the quality of nursing care.
Head nurse	The head nurse's job is to assist and supervise the nursing activities of the unit within the hospital and ensure their staffs are working efficiently. Their duties include the management and quality control of nursing care. Management responsibilities include: 1. Allocating staffing among three shifts. 2. Arranging regular meeting with staff. 3. Arranging holidays and short breaks. Quality control of nursing care responsibilities include: 1. Reporting any medical accident. 2. Setting-up standards of quality assurance.
Ward sister	The ward sister needs to provide basic clinical care, such as discharge planning, home care, health education, consultations and administration work. In addition, during the night shift, they are in charge of their ward and are authorised by their head nurse.

5.3. Defining mental health legislation and leadership style

5.3.1. Mental health legislation

Legislation can be seen as a powerful way to ensure and also to maintain workplace safety and health. In Taiwan, health service workers are protected by the Labour Standard Act (announced in 1984, Taiwan) and the Labour Safety and Health Act (announced in 1974; Taiwan). However, in the workplace, mental health is not covered in the regulations. It is important to establish mental health legislation in the workplace but it is taking some time to do so. While external regulation is still in the process of being established, it may be useful to look at internal organisation legislation. Internal organisation legislation presents the employers' concerns and employees' needs as working rights and responsibilities.

5.3.2. Internal organisation legislation

Most stakeholders responded differently on aspects of internal organisation legislation. It was thought that internal legislation varied depending on the ownership of the hospital. In the public hospital, it was seen to be more hierarchical than in the private hospital or religious hospital. There were mental health promotion activities in private and religious hospitals, but not in public hospitals.

"(...) I am not sure do we have internal mental health legislation or not. But I remember I did fill in a stress score questionnaire or something like that when I just entered this hospital and three months later (...). They are concerned someone will have worse scores. However, in our nursing department, we have a job satisfaction survey every year in September. I do not think that has relevance to mental health (...)." (Public hospital -Ward sister)

In the private hospital setting, mental health promotion activities are likely to be less effective compared with religious hospitals. Stakeholders in the religious hospital gave more positive responses than in public and private hospitals.

"We have an employee support line, but I think only a few people will call for help (...) Because they will, well, if they can, they will just make complaints online, keep complaining even after work (...)." (Private hospital-Ward sister)

"We have a mental health questionnaire. The hospital will send it to you through Outlook, then, we just go through a website and click. I think the hospital will pass our result to the social work department. (...) We also have a mental health promotion centre, if you want to talk or feel stressed, there is always someone there." (Religious hospital-Ward sister)

5.3.3. External legislation

The three different ownership hospitals of stakeholders responded similarly on the aspect of their understanding of external legislation, such as Labour Standard Act and the Labour Safety and Health Act. Their knowledge of external legislation was seen more consistently among the three hospitals. Most of the stakeholders had knowledge of the labour safety and health issues in hospitals.

"Yes, we have the labour standard act and labour safety and health act." (Public hospital-Ward sister)

"I think we are protected by the labour standard act and labour safety and health act." (Private hospital-Ward sister)

"The human resource department staff will give a new employee a handbook which has details about the labour standard act and labour safety and health act." (Religious hospital-Ward sister)

5.3.4. Conclusion

In terms of mental health promotion in hospitals, it seems to be ineffective. The hospitals were aware of mental health promotion. However, there was a lack of mental health promotion programme within hospital. In addition, none of them had mental health legislation within the hospital.

5.4. Defining nursing leadership style

5.4.1. Leadership style in nursing

Leadership can increase productivity through effective management. Better leaders can maximize work force effectiveness and efficiency. Thus, leadership skills have a positive influence on organisational performance. In contemporary leadership theories, variables including organisational culture,

the influence of the leader, the work, the environment, and the complexities of the situation have been addressed as important factors regarding effectiveness. In contemporary leadership theories, transformational leadership theory (Bass, 1985) is one of the most widely researched and discussed. Transformational leaders stimulate their subordinates to be innovative and reframing problems. Subordinates are encouraged to think of old problems in new ways. Additionally, followers are influenced by a transformational leader who is trustworthy. In the present study, transformational leadership was explored from seven factors: attributions, behaviours, build trust, acts with integrity, inspires others, encourages innovative thinking, coach people and individual consideration.

Leadership

5.4.2. Attribution

"The meaning of leadership and how it affects nursing outcomes"

A variety of meanings of leadership were identified ranging from influencing organisational performance to improving organisational commitment. Such a range of definitions indicates that leadership can have a positive influence on organisational commitment. In the public setting hospital, good leadership style can be seen as improving employees' commitment.

"The important thing for a successful organisation is commitment; commitment is the most important part (...) improving employees' commitment is a really important thing for the leadership style of a leader. "(Public hospital-Social worker)

In a religious hospital, factors such as respect, understanding, and problem solving are important to leadership style. These factors are concerned with emotional issues and the skills of dealing with problems.

"(...) Actually, I feel employees' commitment is quite important because basically if he/she is more committed in this hospital then he/she will be cooperate more with the hospitals' affairs. In addition, a manager's leadership style is also quite important, I think a manager should let staff members feel respected, understand employees' thinking and difficulties with performance,

try to solve their problems, then this kind of leadership style will be more persuasive for the employees." (Religious hospital-HN-Ward)

The system in private settings is slightly different. It seems the nurses in private hospitals have to work occasionally in different units. They are supposed to be fixed in a certain workplace. However, during peak times, they are assigned to work in another workplace. Therefore, nurses in these hospitals are more concerned about the leader of the hospital giving clear orders or setting up regulations for this special situation.

"(...) I am not sure about other departments. In our department, nursing department, for example, we are a medical centre. Therefore, the systems are quite clear. We know what we should do. I think the important thing for leadership is clear regulation. (...) sometimes we have to assist other units during peak times, so allocation and how to arrange human resources are quite important. Otherwise, you do not know who you should listen to, where you belong to (...)." (Private hospital-Ward-sister)

5.4.3. Behaviour

"The leadership style you might be using and why you are using this leadership style"

Leadership style seems to be affected by personal experiences. Some stakeholders mentioned that the leadership styles were various and demand of a particular situation had a greater influence on leader's behaviour. In the religious hospital, the head of nursing can be seen as a person who has to check everything is running well and under control. The leader also plays a role as a clinical instructor and a manager. The job character is different from other jobs. In this kind of work, there are more concerns about how the leader can arrange and organise things well. In addition, from a head nurse's viewpoint, even he/her is a leader; a leader needs to let his/her members feel she is one of them. He/she still is one of the members in the ward.

"(...) I think the leader; she/he should have abilities of organisation, judgment and then enthusiasm." (Religious hospital-Ward sister-Hemo room)

"Do not let she/he feel that, you are the kind of person that only sits in the office and makes orders. Do not take care of patients, for example like us as a respiratory intensive care ward, do the patients use a ventilation machine

within normal standards, are their physical situations ok, have patients' problems been recorded on the nursing diary. Do you listen to what they said while they are being shifted, if you find out problems then tell them in advance (...). Do not let them feel that you are the kind of leader in a high position; you are not one of their group members." (Religious hospital-HN-RCW)

"(...) I feel our leader is different to when she was a member. I think the reason is she is in a different position. (...) She used to a nice person but now she is quite emotional. As an example, a head nurse in the burn intensive care unit, 7 or 8 members want to quit the job just because of her. (...) do not be so emotional." (Religious hospital-Ward sister-NICU)

In the private hospital setting, it is more likely that the head of nurse will try to repeat and remind the team members of the mission. The mission she thought might have potential problems that could lead to medical errors. However, another interview has different opinion in same hospital. From her viewpoint the members should do their work independently. She as a head of nurse has her duties and job responsibilities. Even in the same hospital, the leadership style seems to be different in different workplaces.

"(...) I only can tell them, try to advise them. That is when we meet some situation, I will tell my staff. But I feel I just try my best. Sometimes, maybe, I only felt some staff will take your advice but others will not. They might feel that I am wordy. (...) I am the head nurse, when the members feel you are troublesome, you are wordy. I still will, ok, because of my personality, I still will talk on and on, to tell them (...)." (Private hospital-HN)

"You should complete your duty that is what you are supposed to do. Others, that's a secondary thing. (...) in your professional field, she is responsible for something. Then, do it. That's responsibility. So we take our responsibility and she also needs to take her responsibility (...)." (Private hospital-HN)

5.4.4. Build trust

"Build trust and maintain faith in your followers"

Some stakeholders mentioned that building trust was likely to depend on the leader's behaviours and empathy in terms of understanding their followers' situations. Consistency in the leader's manner was seen to promote building trust and maintaining faith. In this section, most of the interviewees felt it is not difficult to describe or give an example of the way build trust. An interviewee

from the religious hospital thought consistent behaviour is an important factor for a leader and can influence whether this leader can be a trusted person or not.

"(...) I feel that is consistent behavior, do not be inconsistent, do not be case by case, that is fair, then she/he would not like say something but do different things, or do not want to solve problems among employees (...)." (Religious hospital-Ward sister- Hemo room)

A new head of nursing has been working in her present workplace for a year. She felt factors such as more understanding, empathy and security are essential for building up trust with her colleagues and members.

"(...) While I have worked with my colleagues in this unit for a year, it is not easy in to get there from strange to familiar. Through some events, for example the followers' physical problems or their families' issues, then she needs to do work and also care for her family. You try to solve her problems out, help her adjust the shifts, then, understand her needs. For health issues, that is to give her a break, give her what she should have as welfare. Assist her to arrange those shifts, reduce her worries, she can have a break while her families are ill or she is ill, then she can come back after she recovers well (...)". (Religious hospital-HN-RCW)

"(...) Actually, I feel this is how you get along with those employees as usual. Because basically, if the leadership style makes employees feel that you are standing by their side, actually, employees will tell you those problems they are facing, or those problems others colleagues are facing. I feel that I have been doing this job so far, makes me feel, actually, if you stand by their side, most of them will tell you, for example, someone has some problems lately, or other colleague's problems. Hope I can solve it for them (...)". (Religious hospital-HN-Ward)

In the private hospital setting, a nurse supervisor mentioned that the best way to build trust from those subordinates was setting clear expectation. Your subordinates know the things you promise or what they are required to achieve. The way to build up trust is thought of differently from slightly different points of view and it seems to depend on job position.

"(...) they will know that there is hope ahead, she/he knows it might take a long time to achieve but they know that I will try to lead them to get there. However, for this new head of nurse, her member feel, even they report to her something; will not reply back at all. But I do respond, so they can see something after I promise, maybe not now but later will be. They know the thing will be achieved so they would like to follow no matter how hard it is. However, for this new

head of nursing, (...) they feel that, she does not listen to what are they saying, then they feel that what she promises will never come true even it is an easy job. They will not trust her." (Private hospital-Supervisor)

"I think trust is developed on both right and obligation. If you only ask your member doing that, they probably do not want to do that because you did not give them feedback equally. If it is relevant to their rights, for example, if we will help them, endeavour to get some rights and interests for them. Then, it might be possible to build trust between you and them (...)." (Public hospital-HN-Anaesthesiology)

5.4.5. Acts with integrity

"Consideration of the moral and ethical consequences of your actions"

Not much information regarding acting with integrity was derived from stakeholders within public hospitals. One judgement from a religious hospital considered this issue to be about treating others in the way you want to be treated.

"(...) knowledge might be relevant to judgment but moral and ethical is when the problems exist which have relevance to ethical issues. Do you have power or skills to deal with those problems? It will not be accepted by using hard methods (...)." (Religious hospital-HN-RCW)

One of the participants in the private hospital setting mentioned about her previous experiences of being a nurse. She will try to let her staff have certain times off work. She understand that the subordinate's individual needs from her personal experiences as she mentioned she had been a nurse.

"Because I was a nurse before, so I know what they need the most. In my opinion; I think the most demand is (...), because there are 8 hours in each shift, the patients are safe basically. Then, the running is controllable. Everyone can have certain off days. In the previous year (...) this year is better. Almost in last past two years, we had huge change in off days. Then, we were waiting for staff to come to help us. We were like this for long time. This is also the reason why the nurses left, due to this kind of vicious circle". (Private hospital-HN)

5.4.6. Inspires others

"An example about how you inspire others and whom are you inspiring"

In terms of inspiring others, it was seen to be more likely inspiring followers. An example given was to encourage followers to learn new skills in order to be promoted and participate in management work. In general, it was seen to be an essential factor in leadership training.

"(...), for example, I will arrange my members to participate in team work of medical quality control, each team has two members and one of them will be in charge. Then, I will be leading them step-by-step, encourage them. The results were quite OK. I think this can inspire them to learn new things". (Public hospital-HN-Orthopaedics)

5.4.7. Encourages innovative thinking

"Help others to think of old problems in new ways and how important it is"

Stakeholders responded on encouraging innovative thinking were seen to be limited in the working environment of the three different ownership hospitals. Standard operating procedure (SOP) was required for medical treatment and it was seen unlikely that this process of working could change. However, in terms of paper work, it is possible to present reports in a new way.

"We have certain requirements for all nursing care; we have to follow the procedure. But I will try to encourage them to use a different way to present reports, for example, we used to write reports in Word, they do not use Excel or other software. After I demonstrate, they are willing to learn and you will find out that they apply this method to other reports." (Public hospital-HN-Orthopaedics)

In the religious hospital, creative thinking was encouraged. Although, the stakeholder in religious hospital has not had an experience of write a brief proposal. However, the stakeholder might not be able to follow and apply innovative thinking in this type of hospital.

"Our hospital encourages us to have creative thinking, for example, if you have some ideas you can write a brief proposal, and then submit to your leader. Once your proposal is accepted, you will get a reward. But I never do that. (Religious hospital- Ward sister - NICU)"

5.4.8. Coach people and individual consideration

"Coaching and treating people"

Coaching people was seen as relevant to getting along with subordinates. Some extend judgements of the way of coaching varied. Effective coaching might be different for each individual stakeholder. The points were made from stakeholders that the leader must understand follower needs and be empathetic towards the leader-follower relationship. The way of coaching was different from the head nurse in private hospital and might be affected by workplace characteristics.

An interviewee from the private hospital had quite negative opinions in terms of the way to coach and get along with followers. She felt there are gaps in the relationships she has with new members of the team. She knew that she has strict requirements, but that she is doing the right thing. It seems no matter what she does, when the relationship changes, everything is different.

"Actually, my requirements are quite strict. So when by that time, I was not a head of nursing, my requirements were already very strict. So, how can I have a good relationship with them? Because of this, I think they might feel (...) you are head of nurse. So whatever, the relationship would not like friends. But I and senior members might be able to be friends after duty. Actually, we are friends when on duty. But for the junior members, I cannot. For new employed members, of course, more difficult. Because you want to talk with them, they sometimes feel, you can decide everything about me. What I said, what I talked, all wrong. That's because they don't understand your personality (...)."
(Private hospital-HN)

There is another example of the way to coach followers from the same hospital but in a different ward. In her opinion, exchange and reward is the way she gets along with her team members.

"You discuss with me about something and planning. (...), we can arrange a schedule. For example, someone wants to quit her job. I will tell her that if you can help us until when, then, you can do anything you want. I will try to help you, if you can help me. Using this way, let people plan for the leaving. Because we have, before, lots of the members disappear. Of course, that's impossible 4 members left within one month. But you will feel there is someone leaving every month. Therefore, we try to talk with them, that is if you can help me, I also can help you." (Private hospital-HN)

5.5. Conclusion

Nursing leadership style is being seen as a professional competency to ensure quality of care and patient safety. It is important how the interviewees define the nursing leadership style and the influences of the leadership styles, and to understand what kinds of leadership are more likely to be applied in hospitals in terms of effectiveness. Some of the interviewees felt that it was not easy to exactly define the behaviours of their leader. The most challenging thing is that their leader might not easily be categorised within one kind of the leadership style. It varied based on what kind of situation the leaders were dealing with at that moment. It also depended on the intensity of their workload. However, further study would be required to clarify the relationship between nursing leadership style and job demand.

In Chapter Four, the qualitative analysis also presented key factors found in the previous literature. The key factors, personal experiences and situations, individual consideration, and a leader-follower relationship were most specific to hospital employees in Taiwan in this study.

5.5.1. Commentary

Limitations of the research

All participants in this study may not represent the different levels of the hospitals, for example, regional hospitals, district hospitals and others. The organisation structure and working environment are different regarding the level of hospital classification.

Implications

This study can be seen as a background survey regarding leadership style of nursing in Taiwan. All of the participants in Study One had experiences of management and used to be or were a leader.

Study Two, which will be presented, was conducted based on the results of Study One and aimed to investigate the bottom part of workforces in Taiwanese hospitals. Based on the findings of Study One, two research questions were posed:

1) How do Taiwanese nurses conceptualise leadership style in hospital

settings?

2) How do workplace characteristics affect a leader-follower relationship?
3) How does nursing leadership affect job performance as well as job satisfaction and organisational commitment?
4) Is there any correlation between nursing leadership style and nurses' health outcomes?

CHAPTER Five: Summary and Conclusion

This chapter was divided into five sections, which discussed: a) the purpose of Study One; b) the methodology issues and research design; c) defining mental health legislation; d) defining nursing leadership style; and e) conclusions and commentary.

This chapter presented a general overview of the hospitals' mental health legislation and nursing leadership styles in Taiwan. Then, the process of how Study One was conducted was described. The mental health legislations in the three types of hospitals were addressed. Additionally, the meaning of nursing leadership style and how it affects the nurses' health outcomes in the workplace in terms of organisational improvement were explored. A variety of meanings of leadership were identified, ranging from influences of organisational performance to improvement of organisational commitment. Leadership style was seen to be affected by personal experiences and situations. Judgements of the leadership styles varied and the work situation has a greater effect on a leader's behaviour. In addition, all situations were different. A leadership style may be effective in one situation, but not in another. Finally, the key points were highlighted and discussed. The next chapter discusses a quantitative method used to test whether the obtained information regarding nursing leadership was specific to the different characteristics of hospital.

Chapter 6: Study Two: Leadership styles in nursing among three types of Taiwanese hospitals and mental health outcomes of nurses

6.1. Introduction

A literature review was carried out and discussed in the previous three chapters. Chapter Three highlighted the importance of the key constructs and possible relationships within the key constructs. Chapter 6 presents a quantitative study which followed on from the previous qualitative studies. Firstly, the framework of this chapter is given below as a general overview of the key constructs of the analysis.

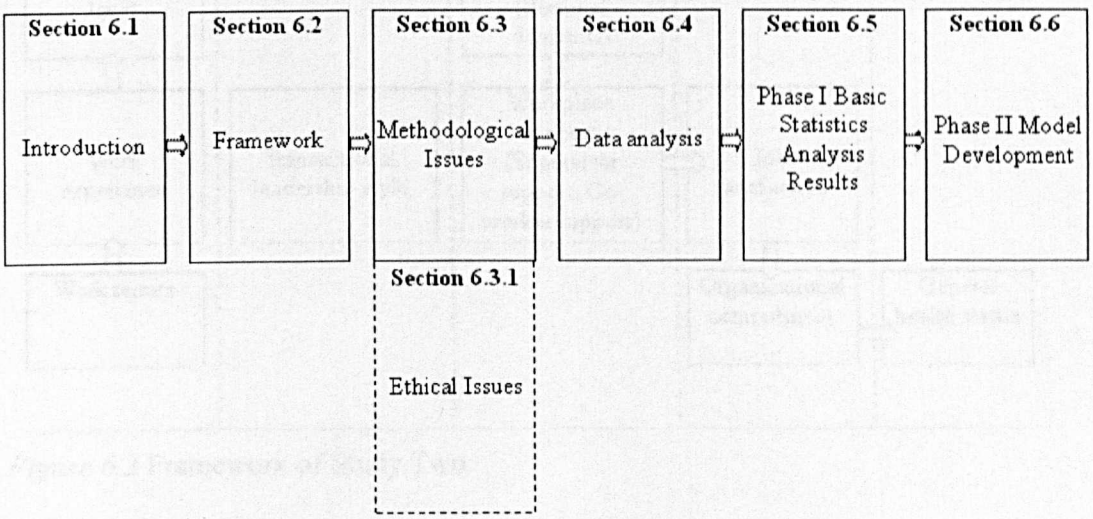


Figure 6.1 Chapter Six structure

The hypothesis of the present research assumes that transformational leadership styles of nursing have an influence on the quality of nurses' working lives. As a classic piece of hypothetic deductive research, the results are presented in two parts: data analysis and model development. In the first part, a basic description of the background of the quantitative phase is discussed followed by structural equation modelling (SEM), which was employed in the second part. A description of the process of developing the proposed structural model for the relationship between nursing leadership and mental health outcomes of nurses will also be included in this chapter. In addition, the methodological issues related to the current thesis will also be discussed.

6.2. Framework

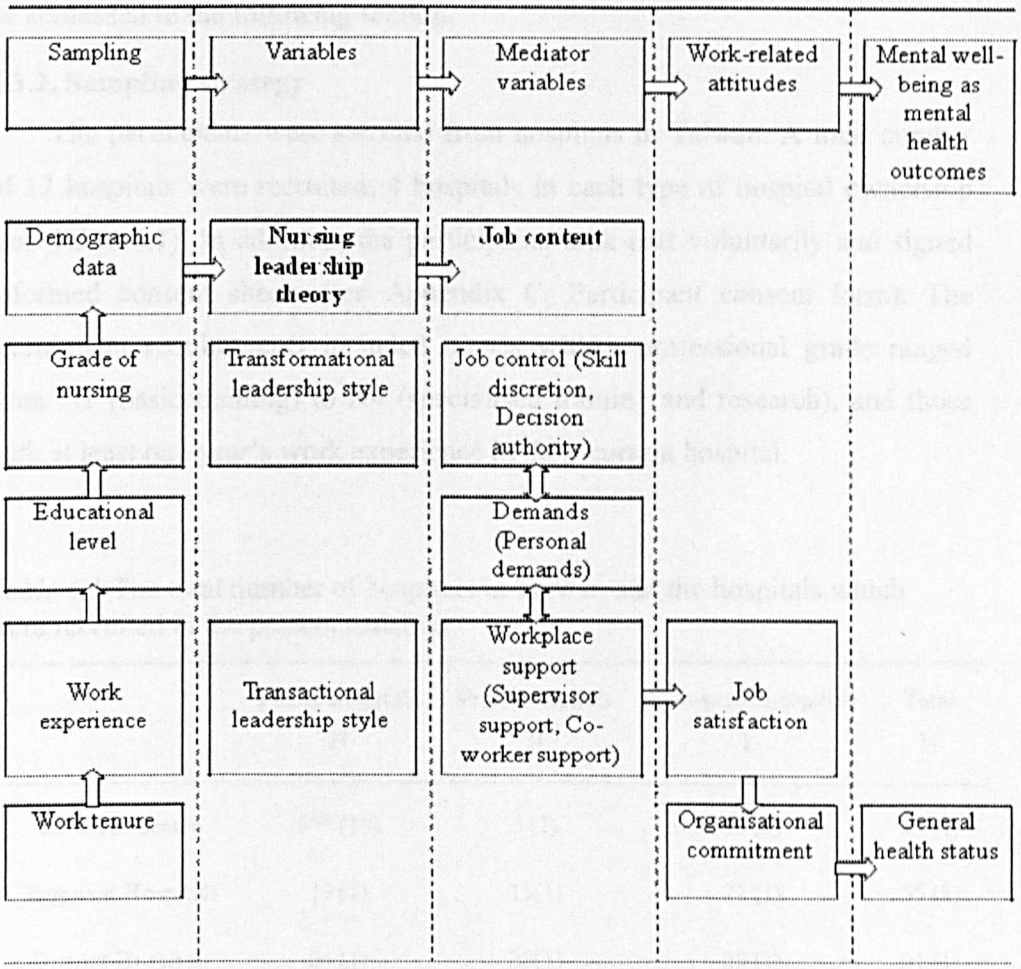


Figure 6.2 Framework of Study Two

6.3. Methodological Issues

6.3.1. Choice of research design

This is a cross-sectional and quantitative study as the data is collected at only one point in time. A self-administered pen-and-paper questionnaire was applied (see Appendix D; English version of the questionnaire). The questionnaire consisted of six sections: demographic information, leadership style, job content, general health status, organisational commitment, and job satisfaction.

In the development of the model, the test of the proposed structural model builds on the qualitative results reported in Chapter Five. As stated in the previous chapter, the qualitative phase of the study explored the issues which

are important for the fundamentals of the proposed model. Further details will be addressed in the following section.

6.3.2. Sampling strategy

The participants were selected from hospitals in Taiwan. A total number of 12 hospitals were recruited; 4 hospitals in each type of hospital ownership (see Table 6.1). In addition, the participants took part voluntarily and signed informed consent sheets (see Appendix C; Participant consent form). The recruitment requirements included nurses with a professional grade ranged from N1 (basic training) to N4 (specialised training and research), and those with at least one year's work experience in their current hospital.

Table 6.1 The total number of hospitals in Taiwan and the hospitals which were recruited in the present research

	Public hospitals N	Profit hospitals N	Non-profit hospitals N	Total N
Medical Centre	6** (1*)	5 (1)	13 (1)	24 (1)
Regional Hospitals	19 (1)	15(1)	21 (1)	55 (1)
District Hospitals	34 (1)	28(1)	29 (1)	91 (1)
Others	21 (1)	84 (1)	19 (1)	124 (1)

Note. *The hospital was recruited in the research. Total number of the hospitals (N = 12); **The hospitals in Taiwan (Statistic data by Department of Health; Taiwan, 2006).

6.3.4. Response rates

A total of 807 participants were recruited from hospitals that had three different types of ownership. Self-administered questionnaires were distributed to the participants through the hospitals' administration department of nursing. The hospitals did not allow the researcher to distribute the questionnaires for those security reasons. The overall response rate was around 80.7% and was considered a high response rate. A total of 651 valid questionnaires were returned. Table 6.2 presents the response rate of each hospital.

Table 6.2 Response rate of participants from the three hospitals

	Overall N	Response rate (%)	N
Private hospital	270	90.6	298
Public hospital	224	68.3	328
Religious hospital	157	86.7	181
Overall	651	80.7	807

6.4. Data analysis

Data analysis was conducted using SPSS (Statistical Package for the Social Sciences) for Windows Version 16.0 (SPSS Inc; Chicago, IL, USA). Differences between the three groups were examined using a Chi-square (χ^2) test. Values of the continuous variables were presented as mean ± standard deviation (*SD*). All *p* values were two-tailed. *P* values less than 0.05 was considered as statistically significant. In terms of continuous data, such as age and work tenure, it was essential to check whether the data followed a normal distribution. The results from the tests of normality all had *p* values less than 0.05. This indicates that the data are not normally distributed. A Pearson chi-square test was used to detect the differences in categorical data such as gender, marital status, grade of nursing, and educational level. A Kruskal wallis test was used for continuous non-parametric data. Analysis of variance (ANOVA) was used for continuous parametric data to detect the differences between and within three groups. Post hoc tests were applied for situations in which the result had a significant value from the omnibus F-test. Scheffe's post hoc tests were suggested for comparisons between two or more mean scores. In addition, factor analysis was used to build up construct validity. The Kaiser-Meyer-Olkin and Bartlett's tests were employed to measure the adequacy of factor analysis for the data. Additionally, both eigenvalues and scree plot were used to infirm the decision of retaining items in the scales. Principal component analysis (PCA) was used in performing data reduction and for model development. AMOS (Analysis of Moment Structure) 16.0 version (Arbuckle, 2007) was used to perform confirmatory factor analysis (CFA) and for model testing.

Principal component analysis

The factor structure and internal consistency of the proposed scale was tested using principal component analysis (PCA) and Cronbach's alpha (α) coefficients. In PCA, the principal components are based on the measured responses. PCA computes new factors which are obtained as liner combinations of the original items. The first factor is required to have the largest possible variance. In the present study, PCA was a method used in performing data reduction.

Internal reliability tests

Reliability tests assess a scale ability to measure consistently the construct being explored. In order to know the reliability of measuring scale, a value of α is used to estimates internal consistency reliability in this study. The coefficient of α is commonly employed to investigate the internal consistency or reliability of factors. It has been recommended by Nunnally (1978), a α score of 0.70 or higher is considered to be consistent and have adequate reliability.

Confirmatory factor analysis

CFA was employed to determine validity and reliability of the measurement model. The reliability of an indicator is defined as the square of the correlation between a latent factor and that indicator. This value indicates the percent of variance in the indicator that is accounted for by the factor or R^2 (Hatcher, 1994). According to Fornell and Larcker's (1981) notions, the reliability of indicator should capture 50% of the variance in the indicator. An analysis of indicator reliability was performed on all items. The value of composite reliability was suggested as a method of assessing the internal consistency of the indicators measuring a given factor. The values of composite reliability exceeding 0.7 are considered acceptable (Nunnally, 1978). Additionally, variance extracted estimates were used to assess the amount of variance that is explained by an underlying factor in relation to the amount of variance due to measurement error (Hatcher, 1994). The value of average variance extracted (AVE) above 0.5 indicated that more than 50% of variance

of the measurement items could be accounted for by the constructs and considered desirable.

The validity of the measurement scales was assessed by using construct validity with two subcategories, convergent validity and discriminant validity. Convergent validity is the extent to which the scores on one measure are correlated (Anderson & Gerbing, 1988). In contrast to convergent validity, discriminant validity is the degree to which two conceptually similar constructs are distinct. Both convergent and discriminant validity by Campbell & Fiske's (1959) conception is considered to be one of the approaches to assessing the construct validity. In order to present the construct validity of the measurement model, convergent and discriminant validity need to be established.

Convergent validity refers to the items in a scale converge or load together on a single construct and shows a convergence between similar constructs in the measurement model. The critical ratio (CR) was employed to assess item loadings and their statistical significance. The values of CR exceeding 1.96 are regarded as significant at the level of 0.05 (Byrne, 2001) and this indicates that convergent validity is obtained. Discriminant validity estimates the degree to which measures of two constructs are distinct (Campbell & Fiske, 1959). Two ways of assessing discriminant validity was conducted in this study. These two assessments included the correlations between a paired construct test (Anderson & Gerbing, 1988) and comparing the squared correlations between a pair of constructs with the AVE of two constructs (Fornell & Larcker, 1981). According to Fornell and Larcker's (1981) notions, if the value of AVE is greater than the square of the construct's correlations with others factors, discriminant validity is evidenced. Additionally, it has been suggested by Kline (2011) that, if the intercorrelations between two constructs are too high (above 0.90), it is hard to prove that they represent distinct constructs. Taken together, adequate construct validity has been recommend by the value of composite reliability above 0.8 and the value of AVE above 0.5 (Ping Jr, 2004). Additionally, the value of AVE is greater than the square of the construct's correlations with others factors. In the present study, both composite reliability and AVE were employed to assess construct validity.

Measurement model assessment

Structural equation modelling (SEM) was applied in the assessment of each construct and respective items, which were included in the measurement model. The measurement model specifies the relationships between the measured variables and the latent variables while the structural model specifies the relationships amongst the latent variables. In the assessment of the measurement model and the structural model, SEM has more advantages than multiple regression in evaluating the model fitting. In addition, SEM was used to examine the pattern of relationships among all variables. It has been recommended to evaluate the goodness-of-fit by using those fit indicators as well as the comparative fit index (CFI), nonnormed fit index (NNFI), and the root mean square error of approximation (RMSEA) (Bentler & Bonett, 1980; Marsh, Balla, & McDonald, 1988). To assess model fit, the applied fit indices are the values of chi-square greater than 0.05 which indicates a good fit. Values below 0.08 for RMSEA indicate an acceptable fit (Brown & Cudeck, 1992). In addition, values of CFI and NFI greater than 0.09 indicate a good fit (Bentler, 1990).

SEM was used to test the research hypotheses. Hypothesis testing involves conducting an evaluation of a hypothesised structural model regardless of whether SEM is consistent with the data. The following fit indices were used to determine the fit of the model with data: Chi-square (χ^2), Ratio of χ^2 to degree of freedom (χ^2/df), Goodness-of-fit index (GFI), Non-normed fit index (TLI/NNFI), Adjusted goodness-of-fit index (AGFI), Root mean square error of approximation (RMSEA), Normal fit index (NFI), and Comparative fit index (CFI). Table 6.3 displays the thresholds of goodness-of-fit indices.

Table 6.3 Thresholds of goodness-of-fit indices used in the assessment of structural equation modelling

Fit Indexes		Cut-Offs
Absolute Indices		
χ^2	Chi-square; Goodness-of-fit test	$p > 0.05$
GFI	Goodness-of-fit index	> 0.90
AGFI	Adjusted goodness-of-fit index	> 0.90
RMSEA	Root mean square error of approximation	< 0.05 (good fit); < 0.08 (reasonable fit)
NC (χ^2/df)	Normed chi-square; Ratio of χ^2 to degree of freedom	1 < NC < 3
Relative Indices		
NFI	Normal fit index	> 0.90
TLI (NNFI)	Non-normed fit index	> 0.90
Relative non-centrality index		
CFI	Comparative fit index	> 0.90

Note. (Barrett, 2007; Hooper, Coughlan, & Mullen, 2008; Miles & Shevlin, 1998; Schumacker & Lomax, 2004; Steiger, 2007)

6.5. Phase I Basic Statistics Analysis Results

Demographic characteristic

A sample of 651 participants was recruited from 12 hospitals in central Taiwan. Table 6.4 presents the demographic characteristics of all the participants. The demographic data obtained included: age, gender, marital status, grade of nursing, educational level, working experience, and work tenure. A total of 41.5% respondents worked in private hospitals, 34.4% worked in public hospitals and the remaining 24.1% worked in religious

hospitals. Average ages of respondents were 30.53 (*SD* = 6.18) years. The average number of years for work tenure was 4.54 (*SD* = 4.51) years. The majority of respondents were female and more than half of them were single. There were statistically significant differences ($p < 0.01$) with grade of nursing and educational level between the three types of hospital.

Table 6.4 Demographic characteristics of the Study 2 population (N=651)

Variable	Private hospital N=270	Public hospital N=224	Religious hospital N=157	Overall N=651	
	Mean (SD) Range	*Mean (SD)* Range	*Mean(SD)* Range	*Mean(SD)* Range	*p*
Age (years)	30.03(5.79) 22-56	30.97(6.70) 21-64	30.80(5.52) 21-55	30.53(6.18) 21-64	0.204
	N (%)	N (%)	N (%)	N (%)	
Gender					0.470[a]
male	5(1.9)	2(0.9)	1(0.6)	8(1.2)	
female	265(98.1)	220(99.1)	156(99.4)	641(98.8)	
Marital status					0.720[a]
single	152(56.5)	127(57.2)	84(53.5)	363(56.0)	
married	116(43.1)	95(42.8)	73(46.5)	284(43.8)	
divorced	1(0.4)	0(0)	0(0)	1(0.2)	
Grade of nursing					<0.01[a]
N1	81(31.9)	49(24.4)	56(38.6)	186(31.0)	
N2	82(32.3)	89(44.3)	49(33.8)	220(36.7)	
N3	25(9.8)	13(6.5)	24(16.6)	62(10.3)	
N4	4(1.6)	0(0)	2(1.4)	6(1.0)	
others	62(24.4)	50(24.9)	14(9.7)	126(21.0)	
Educational level					<0.01[a]
high school or below	5(1.9)	14(6.3)	2(1.3)	21(3.2)	
diploma	120(44.4)	120(54.1)	72(46.5)	312(48.2)	
bachelor	143(53.0)	85(38.3)	74(47.7)	302(46.7)	
postgraduate or above	2(0.7)	3(1.4)	7(4.5)	12(1.9)	
Children					0.210[a]
0	163(60.8)	141(64.4)	99(63.1)	403(62.6)	
1	39(14.6)	34(15.5)	14(8.9)	87(13.5)	
2 or above	66(24.7)	44(20.2)	44(28.0)	154(23.9)	
	Mean (SD) Range	*Mean (SD)* Range	*Mean(SD)* Range	*Mean(SD)* Range	*p*
Working experience (years)	7.46(5.36) 0-27	8.53(6.88) 0-38	8.72(5.35) 0-25	8.13(5.94) 0-38	0.046
Work tenure (years)	4.57(3.97) 0-22	4.30(5.24) 0-27	4.84(4.27) 0-23	4.54(4.51) 0-27	0.017

Note. [a] Pearson chi-square tests

Ownership of hospital

There is a statistically significant difference in both organisational commitment level and general health well-being between the three types of hospital (see Table 6.5). This was shown by an ANOVA [F (2,648) = 16.254,

$p < 0.001$]. Post hoc analyses using the Scheffé post hoc criterion for significance indicated that the average number of errors was significantly lower in the private hospitals ($M = 49.57$, $SD = 11.93$) than in the other two types of hospital ownership (public and religious). Regarding the scores of general health status, it was significant, [F (2,648) = 6.798, $p = 0.001$]. The scores for general health status were significantly higher in private hospitals ($M = 15.07$, $SD = 5.00$) which revealed the worse health status. However, there is no statistically significant difference in job satisfaction among the three hospitals. This result represented the degree of organisational commitment among the hospitals with the highest scores found in the religious hospitals.

Table 6.5 The average scores of moderator variables among three types of hospital ownership

	Private hospital	Public hospital	Religious hospital	*P*	Overall
	M, SD (Range)	*M, SD* (Range)	*M, SD* (Range)		*M, SD* (Range)
Job Satisfaction	45.38, 7.21 (17-70)	46.49, 7.54 (12-72)	46.12, 7.18 (25-71)	NS	45.94, 7.33 (12-72)
Organisational Commitment	49.57, 11.93 (8-76)	54.33, 11.49 (14-83)	55.50, 11.77 (21-84)	<0.001	52.64, 12.01 (8-84)
General Health Well-being	15.07, 5.00 (1-32)	14.52, 5.15 (0-31)	13.20, 5.09 (2-26)	0.001	14.43, 5.12 (0-32)

Nursing Leadership Style

Participants completed the Multifactor Leadership Questionnaire (Bass & Avolio, 1995). This instrument measures the following dimensions of transformational leadership: idealised influence, inspiration motivation, intellectual stimulation, and individualised consideration. It also measures dimensions of transactional leadership: contingent reward and management by exception.

Principal component analysis and internal reliability tests for Multifactor Leadership

Cronbach's alpha (α) was employed to investigate the reliability of the factors. The coefficient of α for the 21 items of the Multifactor Leadership Questionnaire was 0.967 which suggests excellent scale reliability (an alpha of greater than 0.70) and internal consistency. The result of the PCA conducted on the 21 items measuring leadership style identified a two-factor structure (see Table 6.6). The Kaiser-Meyer-Oklin (KMO) test can be used to check the factorability of the data. The KMO statistic represents the ratio of the squared correlation between variables to the squared partial correlation between variables. It also has been suggested that the values greater than 0.5 as acceptable. The values between 0.7 and 0.8 are good (Field, 2000). In the scale of Multifactor Leadership, the values of the Bartlett's test of sphericity (p = 0.000) and the KMO (0.971) are high and significant which suggests that factor analysis is adequate for this data. The total variance explained by Factor 1 was approximately 62% which is more than 60% and, therefore, was acceptable (above 50%). This is further supported by visual inspection of the Scree plot which showed two components with eigenvalues greater than 1 (see Figure 6.3). The value of the correlation coefficient between the two factors was 0.445.

Internal reliability of the two subscales was calculated. The 17 item Transformational Leadership scale had a value of α of 0.975 and the 4 item Transactional Leadership scale had an α of 0.698, both indicating good internal consistency.

Table 6.6 Principal component analysis of the Multifactor Leadership Questionnaire (21 items) with factor loadings after oblique rotation (Oblimin with Kaiser Normalisation) with two factors

		Factor 1	Factor 2
L2.9	I provide appealing images about what we can do	.896	
L2.18	I give personal attention to others who seem rejected	.889	
L2.16	I help others find meaning in their work	.887	
L2.4	I help others develop themselves	.881	
L2.17	I get others to rethink ideas that they had never questioned before	.878	
L2.10	I provide others with new ways of looking at puzzling things	.859	
L2.6	I am satisfied when others meet agreed-upon standards	.855	
L2.11	I let others know how I think they are doing	.848	
L2.15	Others are proud to be associated with me	.847	
L2.3	I enable others to think about old problems in new ways	.841	
L2.2	I express with a few simple words what we could and should do	.840	
L2.8	Others have complete faith in me	.833	
L2.1	I make others feel good to be around me	.829	
L2.5	I tell others what to do if they want to be rewarded for their work	.825	
L2.14	Whatever others want to do is OK with me	.816	
L2.19	I call attention to what others can get for what they accomplish	.793	
L2.12	I provide recognition/rewards when others reach their goals	.786	
L2.13	As long as things are working, I do not try to change anything		.836
L2.21	I ask no more of others than what is absolutely essential		.790
L2.7	I am content to let others continue working in the same way as always		.734
L2.20	I tell others the standards they have to know to carry out their work		.460
Explained Variance		61.874%	7.319%
Cronbach's Alpha		0.975	0.698

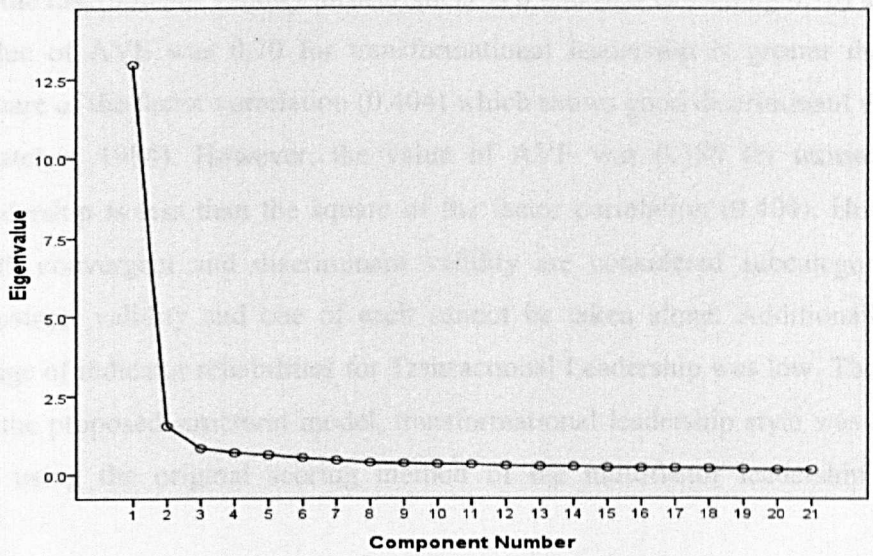


Figure 6.3 Scree plot for Leadership Style

Confirmatory factor analysis of Multifactor Leadership

The indicator reliabilities for Factor 1 were all above 0.608 (the square of the standardised factor loading). However, regarding the range of indicator reliabilities for Factor 2, three items have low reliabilities (0.346; 0.401; 0.200). Internal consistency of the multifactor leadership scale was calculated by composite reliability. Convergent and discriminant validity was performed to measure construct validity (see Table 6.7). In the multifactor leadership scale, the value of the composite reliability in the first factor was 0.98 (exceeding 0.60) and the value of the composite reliability was 0.71 in the second factor labelled as transactional leadership which shows good inter-item reliability.

For the convergent validity test, in which the first factor was labelled as transformational leadership, all items loaded significantly within factor 1 indicating that all indicators were effectively measuring the same construct and these were considered as good convergent validity (see Table 6.7). The discriminant validity of the multifactor leadership scale was determined in two ways. Firstly, the correlations between the constructs and were examined. Another way to measure the discriminant validity of the multifactor leadership scale was by comparing the squared correlations between a pair of constructs

with the AVE of two constructs. Although, the correlation between two factors of the discriminant validity measurement is 0.636 (not exceeding 0.70) and the value of AVE was 0.70 for transformational leadership is greater than the square of the factor correlation (0.404) which shows good discriminant validity (Hatcher, 1994). However, the value of AVE was 0.388 for transactional leadership is less than the square of the factor correlation (0.404). However, both convergent and discriminant validity are considered subcategories of construct validity and one of each cannot be taken alone. Additionally, the range of indicator reliabilities for Transactional Leadership was low. Therefore, in the proposed structural model, transformational leadership style was scored by using the original scoring method of the multifactor leadership scale.

Table 6.7 Confirmatory factor analysis of the Multifactor Leadership Questionnaire (21 items) with two factors

Standardised Factor Coefficients*			
		Factor 1	Factor 2
L2.9	I provide appealing images about what we can do	.887	
L2.18	I give personal attention to others who seem rejected	.882	
L2.16	I help others find meaning in their work	.883	
L2.4	I help others develop themselves	.870	
L2.17	I get others to rethink ideas that they had never questioned before	.876	
L2.10	I provide others with new ways of looking at puzzling things	.848	
L2.6	I am satisfied when others meet agreed-upon standards	.838	
L2.11	I let others know how I think they are doing	.837	
L2.15	Others are proud to be associated with me	.843	
L2.3	I enable others to think about old problems in new ways	.824	
L2.2	I express with a few simple words what we could and should do	.822	
L2.8	Others have complete faith in me	.815	
L2.1	I make others feel good to be around me	.813	
L2.5	I tell others what to do if they want to be rewarded for their work	.807	
L2.14	Whatever others want to do is OK with me	.807	
L2.19	I call attention to what others can get for what they accomplish	.789	
L2.12	I provide recognition/rewards when others reach their goals	.780	
L2.13	As long as things are working, I do not try to change anything		.588
L2.21	I ask no more of others than what is absolutely essential		.779
L2.7	I am content to let others continue working in the same way as always		.633
L2.20	I tell others the standards they have to know to carry out their work		.447
$*p < 0.05$			
Average Variance Extracted		0.700	0.388
Composite Reliability		0.975	0.71
Correlation between factors		.636	
Goodness of Fit Statistic $\chi^2 = 1285.752$ ($p < 0.000$); df = 188; $\chi^2/df = 6.839$; RMSEA = 0.095; GFI = 0.823; AGFI= 0.783; NFI = 0.902; CFI = 0.915			

Job content

To measure job content in the present thesis, Karasek's Job Content Questionnaire (JCQ) was used. This instrument comprises of 22 items and three dimensions: job control, personal demands, and workplace support. The dimension of job control has two subscales, skill discretion and decision authority. These two subscales are summed together to provide an overall score. The workplace support dimension consists of two subscales, supervisor support and co-worker support, which are also summed together to provide an overall score. Participants were asked to indicate their level of agreement with each item of the JCQ by using a four-point Likert scale (strongly disagree; disagree; agree; strongly agree).

Principal component analysis and internal reliability tests for Job Content

The coefficient of α for the 22 items of the Job Content Questionnaire was 0.721 which indicates acceptable internal reliability (see Table 6.8). The values of the Bartlett's test of sphericity (p = 0.000), which reached a statistically significant level, and the KMO (0.841, greater than 0.7) suggested that factor analysis was adequate for these data. The result of the PCA conducted with the 22 items measuring job content identified a five-factor structure. The first factor, which contributed 14.18% of the variance, was labelled as supervisor support. The second factor was labelled co-worker support and contributed 13.73% of the total variance. The third and fourth factor was labelled skill discretion and decision authority which contributed 12.48% and 10.69% of the total variance. The fifth factor was labelled personal demands and contributed 10.61% of the total variance. Examination of the Scree plot revealed that five components could be extracted with eigenvalues greater than 1 (see Figure 6.4). Internal reliability of the five subscales was calculated. The supervisor support scale had a value of α of 0.89 and the co-worker support scale had an α of 0.866. The decision authority and the personal demands scale had an α of 0.804 and 0.730. All of above four subscales indicating good internal consistency. However, the skill discretion scale with an α of 0.586, which indicating poor internal consistency.

Table 6.8 Principal components analysis of the Job Content Questionnaire (22 items)

		Factor 1 Supervisor support	Factor 2 Co-worker support	Factor 3 Skill discretion	Factor 4 Decision authority	Factor 5 Personal demands
JCQ17	Supervisor is helpful	.865				
JCQ18	Supervisor is good organiser	.846				
JCQ15	Supervisor is concerned	.815				
JCQ16	Supervisor pays attention	.783				
JCQ21	Co-worker friendly		.888			
JCQ20	Co-worker interest in me		.876			
JCQ22	Co-worker competent		.844			
JCQ19	Co-worker helpful		.644			
JCQ5	Requires creativity			.752		
JCQ4	Variety jobs			.740		
JCQ1	Learn new things			.641		
JCQ3	High level skills			.630		
JCQ6	Develop own abilities			.521		
JCQ10	Work fast			.385		
JCQ2	Work not repetitive			-.371		
JCQ9	Allowed own decisions				.832	
JCQ8	Freedom to make decisions				.830	
JCQ7	Own opinions influential				.736	
JCQ12	Excessive workload					.835
JCQ13	Insufficient time					.792
JCQ11	Work hard					.660
JCQ14	Conflicting work					.568
Explained Variance		14.183%	13.726%	12.476%	10.685%	10.613%
Cronbach's Alpha		0.891	0.866	0.586	0.804	0.730

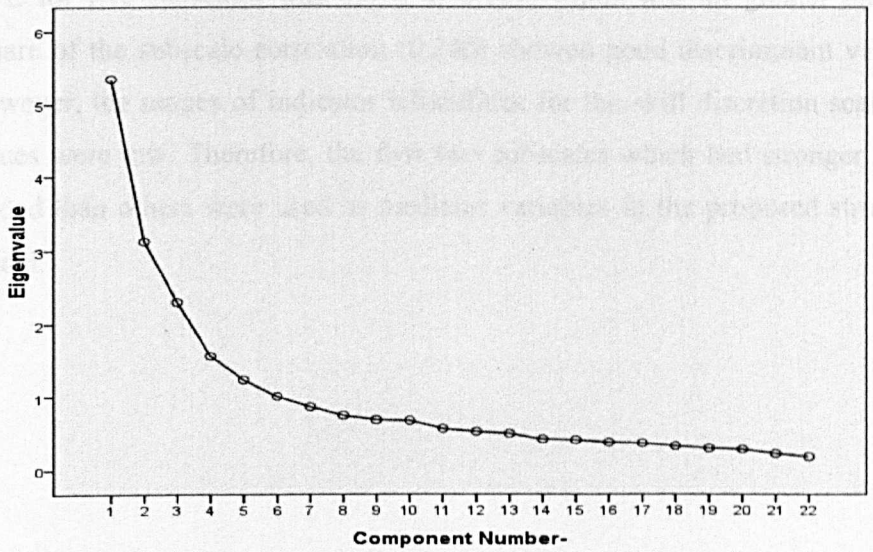


Figure 6.4 Scree plot for Job Content

Confirmatory Factor Analysis of Job Content

The indicator reliabilities for the supervisor support items were all above 0.637. Regarding the range of indicator reliabilities for co-worker support scale, one item has low reliabilities (0.321). In the indicator reliabilities for the skill discretion scale, all items within the scale have low reliabilities. For the scale of decision authority and personal demands, the results showed the values of indicator reliabilities were above 0.501 except one item in the personal demands.

Internal consistency of the job content scale was calculated by composite reliability. In the job content scale, the ranges of the composite reliability for five subscales were 0.893 to 0.660 (exceeding 0.60), which showed good inter-item reliability.

For the convergent validity test, all items loaded significantly within each subscale which indicating that all indicators were effectively measuring the same construct and these were considered as good convergent validity.

The discriminant validity of the job content scale was determined by examining the correlations between the constructs and comparing the squared correlations between a pair of constructs with the AVE of two constructs. The

range of the correlation between subscales was 0.490 to -0.378 and the range of AVE for five subscales was 0.676 to 0.297, which was all greater than the square of the subscale correlation (0.240) showed good discriminant validity. However, the ranges of indicator reliabilities for the skill discretion scale, the values were low. Therefore, the first two subscales which had stronger factor loaded than others were used as mediator variables in the proposed structural model.

Table 6.9 Confirmatory factor analysis of the Job Content Questionnaire (22 items)

Standardised Factor Coefficients*						
		Factor 1 Supervisor support	Factor 2 Co-worker support	Factor 3 Skill discretion	Factor 4 Decision authority	Factor 5 Personal demands
JCQ17	Supervisor is helpful	.851				
JCQ18	Supervisor is good organiser	.831				
JCQ15	Supervisor is concerned	.807				
JCQ16	Supervisor pays attention	.798				
JCQ21	Co-worker friendly		.914			
JCQ20	Co-worker interest in me		.882			
JCQ22	Co-worker competent		.799			
JCQ19	Co-worker helpful		.567			
JCQ5	Requires creativity			.686		
JCQ4	Variety of jobs			.674		
JCQ1	Learn new things			.546		
JCQ3	High level skills			.554		
JCQ6	Develop own abilities			.566		
JCQ10	Work fast			.369		
JCQ2	Work not repetitive			-.307		
JCQ9	Allowed own decisions				.721	
JCQ8	Freedom to make decisions				.865	
JCQ7	Own opinions influential				.710	
JCQ12	Excessive workload					.814
JCQ13	Insufficient time					.753
JCQ11	Work hard					.515

		Factor 1 Supervisor support	Factor 2 Co-worker support	Factor 3 Skill discretion	Factor 4 Decision authority	Factor 5 Personal demands
JCQ14	Conflicting work					.500
*$p < 0.05$						
Average Variance Extracted		0.676	0.643	0.297	0.591	0.436
Composite Reliability		0.893	0.875	0.660	0.811	0.747
Correlation between factors		F1<->F2 .318	F2<->F3 .298	F3<->F4 .490	F4<->F5 -.240	F5<->F1 -.378
		F1<->F3 .256	F2<->F4 .215	F3<->F5 .105	F4<->F1 .420	F5<->F2 -.088
Goodness of Fit Statistic $\chi^{2:}$= 788.788 ($p < 0.000$); df = 199; $\chi^{2:}$/df = 3.964; RMSEA = 0.068; GFI = 0.897; AGFI= 0.870; NFI = 0.871; CFI = 0.900						

What is the relationship between transformational leadership style and job content?

Table 6.10 presents the correlations between transformational leadership and the five sub-scales of the JCQ. There was a highly positive correlation between transformational leadership and supervisor support (correlation coefficients; $r = 0.748$, $p < 0.01$). This was the highest correlation coefficient compared with other sub-scales of the JCQ. In the proposed structural model, the sub-scale of supervisor support was brought into the model as a mediator variable for predicting nurses' quality of working life.

Table 6.10 Correlations between transformational leadership style and the JCQ subscale

	1	2	3	4	5	6
1. Transformational leadership	1					
2. SD (skill discretion)	.225**	1				
3. DA (decision authority)	.295**	.395**	1			
4. PD (personal demands)	.234**	-.108**	.137**	1		
5. SS (supervisor support)	.748**	.235**	.372**	.321**	1	
6. CS (co-worker support)	.235**	.172**	.201**	.036	.310**	1

Note. **. Correlation is significant at the 0.01 level.

Job Satisfaction

There have been many measures of job satisfaction. Most of the instruments involve questions or statements asking respondents how they feel about their job in general or specific aspects as to the style of supervision that their superiors use. In the present thesis, the job satisfaction scale of the Occupational Stress Indicator (OSI, Cooper et al., 1987) was employed. It includes 22 items in its original form. However, in the present thesis, the

Chinese version of the job satisfaction scale, which comprises of 12 items from the OSI, was used.

Principal component analysis and internal reliability tests for Job Satisfaction

The coefficient of α for the 12 items of job satisfaction was 0.939 which shows fairly strong scale reliability and internal consistency (see Table 6.11). The values of Bartlett's test of sphericity (p = 0.000) and the KMO (0.943) were high and significant, which suggests that it was appropriate to performed factor analysis for these data.

The result of the PCA conducted with the 12 items measuring job satisfaction identified a one-factor structure in this data. In the job satisfaction scale, the total variance explained is approximately 60.67%. The examination of the inter-item correlation matrix with a coefficient of α is 0.939 which also supported the inclusion of all the items of the job satisfaction scale. Examination of the Scree plot showed that one component could be extracted with an eigenvalue greater than 1 (see Figure 6.5).

Table 6.11 Principal components analysis of the Job Satisfaction Questionnaire (12 items)

		Factor 1 Job Satisfaction (JS)
JS11	The design or shape of your organisation's structure	.818
JS3	The degree to which you feel "motivated" by your job	.815
JS6	The kind of work or tasks that you are required to perform	.811
JS9	The degree to which your job taps into the range of skills which you feel you possess	.805
JS10	The psychological "feel" or climate that dominates your organisation	.804
JS7	The degree to which you feel that you can personally develop or grow in your job	.799
JS5	The way changes and innovations are implemented	.776
JS8	The way in which conflicts are resolved in your company	.776
JS2	The actual job itself	.756
JS12	The degree to which you feel extended in your job	.754
JS1	Communication and the way information flows around your organisation	.717
JS4	The style of supervision that your superiors use	.706
Explained Variance		60.671%
Cronbach's Alpha		0.939

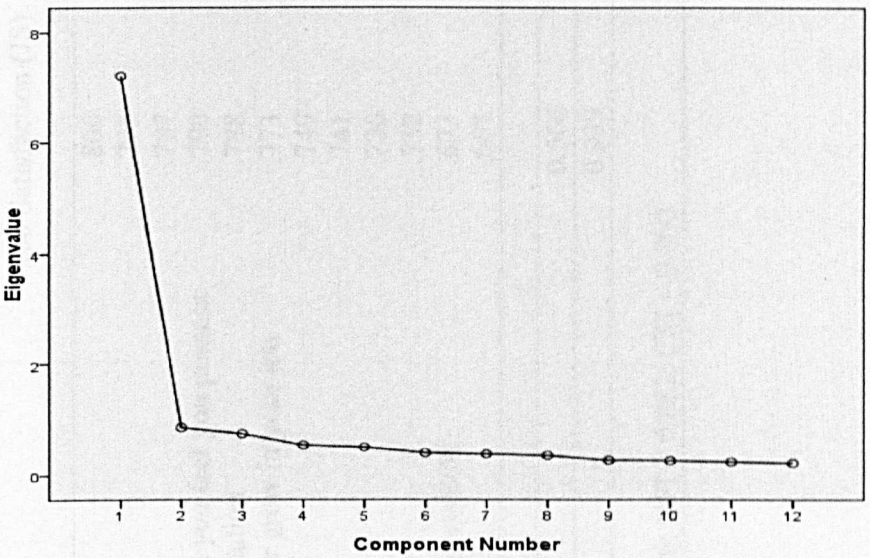


Figure 6.5 Scree plot for Job Satisfaction

Confirmatory Factor Analysis of Job Satisfaction

The indicator reliabilities for job satisfaction items were above 0.536 except two items (0.453; 0.445).Internal consistency of the job satisfaction scale was calculated by composite reliability. Convergent validity was performed to measure construct validity. In the job satisfaction scale, the value of the composite reliability was 0.94 (exceeding 0.60) which indicates very good inter-item reliability (see Table 6.12).

For the convergent validity test, all items loaded significantly within one factor and this was considered as good convergent validity. As all items loaded into one factor, thus, a total scoring method was performed on this scale. In the proposed structural model, an overall score of job satisfaction was defined as a work related attitudes variable.

Table 6.12 Confirmatory factor analysis of the Job Satisfaction Questionnaire (12 items)

Standardised Factor Coefficients*		
		Job Satisfaction (JS)
JS11	The design or shape of your organisation's structure	.800
JS3	The degree to which you feel "motivated" by your job	.793
JS6	The kind of work or tasks that you are required to perform	.787
JS9	The degree to which your job taps into the range of skills which you feel you possess	.790
JS10	The psychological "feel" or climate that dominates your organisation	.788
JS7	The degree to which you feel that you can personally develop or grow in your job	.773
JS5	The way changes and innovations are implemented	.749
JS8	The way in which conflicts are resolved in your company	.741
JS2	The actual job itself	.720
JS12	The degree to which you feel extended in your job	.732
JS1	Communication and the way information flows around your organisation	.673
JS4	The style of supervision that your superiors use	.667
*$p < 0.05$		
Average Variance Extracted		0.566
Composite Reliability		0.939
Goodness of Fit Statistic $\chi^2 = 636.578$ ($p < 0.000$); df = 54; $\chi^2/df = 11.788$; RMSEA = 0.129; GFI = 0.845; AGFI= 0.776; NFI = 0.882; CFI = 0.890		

In terms of job satisfaction, the highest job satisfaction scores ($M = 46.51$, $SD = 7.74$) were seen in the public hospital. However, there is no statistically significant difference in these scores among the three hospitals.

Table 6.13 Job satisfaction scores among the three types of hospital ownership

	Private hospital N=260	Public hospital N=213	Religious hospital N=148	Overall N=621
Minimum	17	12	25	12
Maximum	70	72	71	72
Mean	45.36	46.51	46.13	45.94
Std. Deviation	7.35	7.74	7.40	7.50

Do the variables of Job Content and Transformational Leadership predict Job Satisfaction?

Table 6.14 displays the unstandardised (β) coefficients with their standard errors, and the standardised (β) coefficients. A single regression to examine whether job content predicts job satisfaction was statistically significant ($p < 0.01$) with 31.7% of the variance in job satisfaction explained by job content. With regard to the transformational leadership variable, 35% of the variance in job satisfaction was explained by transformational leadership and was statistically significant ($p < 0.01$).

Table 6.14 Summary of multiple regression analyses for variables predicting Job Satisfaction

	Job Satisfaction			
Variables	R^2	B	SE B	β
Job content	0.317	0.548	0.049	0.434**
Transformational Leadership	0.226	0.143	0.25	0.223**

Note. $*p < 0.05$;$**p < 0.01$

Organisational Commitment

The Organisational Commitment Questionnaire (OCQ) was developed by Mowday et al., (1979) and consists of 15 items measuring global organisational commitment. It has been used as a total commitment scale. However, it has also been broken down into subscales by researchers.

Principal component analysis and internal reliability tests for Organisational Commitment

The coefficient of α for the 15 items of organisational commitment was 0.878 which demonstrates good scale reliability and internal consistency. The result of the PCA conducted with the 15 items measuring organisational commitment identified a three-factor structure (see Table 6.15). In the organisational commitment scale, the values of Bartlett's test of sphericity (p = 0.000) and the KMO (0.920) were high and significant, which suggested that factor analysis was adequate for these data. The total variance explained by Factor 1, Factor 2, and Factor was approximately 42%, 15%, and 7%. It was approximately 64% with three factors. Examination of the Scree plot revealed that three components could be extracted with eigenvalues greater than 1 (see Figure 6.6).

Internal reliability of the three subscales was calculated. The 9 item Factor 1 scale had a value of α of 0.924 and the 4 item Factor 2 scale had an α of 0.757, both indicating good internal consistency. However, the two item Factor 3 scale with an α of 0.498, which indicating poor internal consistency.

Table 6.15 Principal components analysis of the Organisational Commitment Questionnaire (15 items) with factor loadings after oblique rotation (Oblimin with Kaiser Normalisation) with three factors

		Factor 1	Factor 2	Factor 3
OC2	I talk up this organisation to my friends as a great organisation to work for	.876		
OC6	I am proud to tell others that I am part of this organisation	.865		
OC10	I am extremely glad that I chose this organisation to work for over others I was considering at the time I joined	.833		
OC5	I find that my values and the organisation's values are very similar	.817		
OC14	For me, this is the best of all possible organisations for which to work	.780		
OC1	I am willing to put in a great deal of effort beyond that normally expected in order to help this organisation be successful	.767		
OC8	This organisation really inspires the very best in me in the way of job performance	.745		
OC4	I would accept almost any types of job assignment in order to keep working for this organisation	.709		
OC13	I really care about the fate of this organisation	.695		
OC3	I feel very little loyalty to this organisation		.796	
OC9	It would take very little change in my present circumstance to cause me to leave this organisation		.782	
OC15	Deciding to work for this organisation was a definite mistake on my part		.776	
OC7	I could just as well be working for a different organisation as long as the type of work was similar		.636	
OC11	There's not too much to be gained by sticking with this organisation indefinitely			.798
OC12	Often, I find it difficult to agree with this organisation's policies on important matters relating to its employees			.752
Explained Variance		41.689%	14.983%	6.793%
Cronbach's Alpha		0.924	0.757	0.498

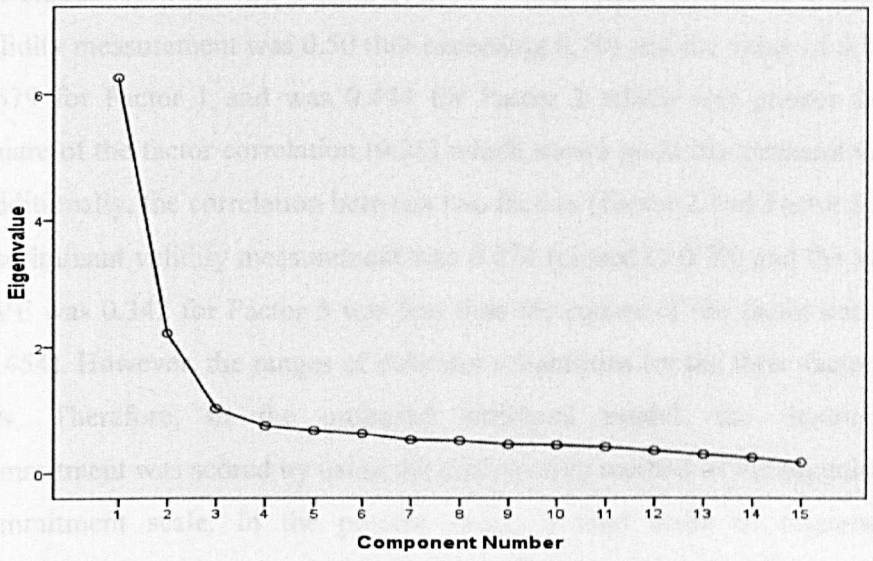


Figure 6.6 Scree plot for Organisational Commitment

Confirmatory Factor Analysis of Organisational Commitment

Regarding the range of indicator reliabilities for Factor 1, three items have low reliabilities (0.477; 0.392; 0.449). In the indicator reliabilities for Factor 2 and Factor 3, two items in each have low reliabilities. Internal consistency of the organisational commitment scale was calculated by composite reliability. Convergent and discriminant validity was performed to measure construct validity (see Table 6.16). In the organisational commitment scale, the value of the composite reliability in the first factor and the second factor was 0.92 and 0.76 (exceeding 0.60), which showed good inter-item reliability. However, in the third factor, the composite reliability value was 0.51 which was less than 0.60.

For the convergent validity test, all items loaded significantly within each factor which indicating that all indicators were effectively measuring the same construct and these were considered as good convergent validity. The discriminant validity of the organisational commitment scale was determined in two ways. Firstly, the correlations between the constructs and were examined. Another way to measure the discriminant validity of the organisational commitment scale was by comparing the squared correlations

between a pair of constructs with the AVE of two constructs. Although, the correlation between two factors (Factor 1 and Factor 2) of the discriminant validity measurement was 0.50 (not exceeding 0.70) and the value of AVE was 0.579 for Factor 1 and was 0.444 for Factor 2 which was greater than the square of the factor correlation (0.25) which shows good discriminant validity. Additionally, the correlation between two factors (Factor 2 and Factor 3) of the discriminant validity measurement was 0.674 (closed to 0.70) and the value of AVE was 0.342 for Factor 3 was less than the square of the factor correlation (0.454). However, the ranges of indicator reliabilities for the three factors were low. Therefore, in the proposed structural model, the organisational commitment was scored by using the total scoring method of the organisational commitment scale. In the present study, a total score of organisational commitment was used as one of the work-related attitude variables.

Table 6.16 Confirmatory factor analysis of the Organisational Commitment Questionnaire (15 items) with three factors

Standardised Factor Coefficients*				
	Constructs and indicators	Factor 1	Factor 2	Factor 3
OC2	I talk up this organisation to my friends as a great organisation to work for	.882		
OC6	I am proud to tell others that I am part of this organisation	.878		
OC10	I am extremely glad that I chose this organisation to work for over others I was considering at the time I joined	.838		
OC5	I find that my values and the organisation's values are very similar	.758		
OC14	For me, this is the best of all possible organisations for which to work	.742		
OC1	I am willing to put in a great deal of effort beyond that normally expected in order to help this organisation be successful	.717		
OC8	This organisation really inspires the very best in me in the way of job performance	.691		
OC4	I would accept almost any type of job assignment in order to keep working for this organisation	.626		
OC13	I really care about the fate of this organisation	.670		
OC3	I feel very little loyalty to this organisation		.705	
OC9	It would take very little change in my present circumstance to cause me to leave this organisation		.654	
OC15	Deciding to work for this organisation was a definite mistake on my part		.758	
OC7	I could just as well be working for a different organisation as long as the type of work was similar		.526	
OC11	There's not too much to be gained by sticking with this organisation indefinitely			.495
OC12	Often, I find it difficult to agree with this organisation's policies on important matters relating to its employees			.663

*$p < 0.05$

	Factor 1	Factor 2	Factor 3
Average Variance Extracted	0.579	0.444	0.342
Composite Reliability	0.924	0.758	0.505
Correlation between factors	F1<->F2 .500	F2<->F3 .674	F1<->F3 .227
Goodness of Fit Statistic χ^2= 420.093 (p < 0.000); df = 87; χ^2/df = 4.829; RMSEA = 0.077; GFI = 0.920; AGFI= 0.889; NFI = 0.915; CFI = 0.931			

Table 6.17 displays the mean of organisational commitment scores, which were $M = 55.60$, $SD = 11.91$ in the religious hospitals. This mean score was higher than both public hospitals ($M = 54.47$, $SD = 11.80$) and private hospitals ($M = 49.44$, $SD = 12.21$).

Table 6.17 Organisational commitment scores among three types of hospital ownership

	Private hospital N=257	Public hospital N=212	Religious hospital N=153	Overall N=622
Minimum	8	14	21	8
Maximum	76	83	84	84
Mean	49.44	54.47	55.60	52.67
Std. Deviation	12.21	11.80	11.91	12.29

There was a statistically significant difference ($p < 0.01$) in organisational commitment level between the three types of hospital (see Table 6.18). This result represented the degree of organisational commitment among the hospitals with the highest scores found in religious hospitals.

Table 6.18 One-way ANOVA tests of between groups effects for organisational commitment

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	4480.732	2	2240.366	16.254	.000
Within Groups	89315.437	648	137.832		
Total	93796.169	650			

Ownership of hospital

There was a statistically significant difference in both organisational commitment level and general health status between the three types of hospital (see Table 6.18; Table 6.24). An ANOVA showed that the scores of organisational commitment were significant, [F (2,648) = 16.254, $p < 0.001$].

Post hoc analyses using Scheffé post hoc criterion for significance indicated that the average number of errors were significantly lower in the private hospitals (M = 49.57, SD = 11.93) than in the other two types hospital ownership (public and religious). The scores of general health status were also found to be significant, [F (2,648) = 6.798, p = 0.001]. The scores were significantly higher in private hospitals (M = 15.07, SD = 5.00) compared to the other two types hospital ownership, which revealed that the worse health status was found in private hospitals. However, there was no statistical significance observed in job satisfaction among the three hospitals.

Do the variables of Job Content and Transformational Leadership predict Organisational Commitment?

Table 6.19 delineates the linear regression analyses that addressed this question. Job content explained 17.8% of the variance in organisational commitment and was found to be statistically significant ($p < 0.01$). In terms of the transformational leadership variable, 18.7% of the variance in organisational commitment was explained by transformational leadership and this was also found to be statistically significant ($p < 0.01$).

Table 6.19 Summary of multiple regression analyses for variables predicting Organisational Commitment

Variable	Organisational Commitment			
	R^2	B	SE B	β
Job content	0.178	0.738	0.090	0.356**
Transformational Leadership	0.103	0.120	0.046	0.114**

Note. *$p < 0.05$;**$p < 0.01$.

What is the relationship between job satisfaction and organisational commitment?

The job satisfaction scale was highly positively correlated to organisational commitment (r = 0.552) at a statistically significant level ($p <$ 0.01). Table 6.20 displays the correlations between job satisfaction and organisational commitment.

Table 6.20 Correlations between job satisfaction and organisational commitment scales (N = 651)

	1	2
1. Job satisfaction	1	0.552**
2.Organisational commitment	0.552**	1

Note. **. Correlation is significant at the 0.01 level.

General Health Questionnaire

The General Health Questionnaire (GHQ; Goldberg & Williams, 1988) was originally designed to be used with the general population. It contains 60 items with multiple dimensional aspects of health states. Further development of the GHQ produced four versions; the shortest version being the GHQ-12. The GHQ-12 can be used as a psychological health status screening tool in public settings. The GHQ-12 was used in the present thesis, which comprises of six positive and six negative items. There are three ways in which the questionnaire can be coded: (1) Likert method (0-1-2-3), (2) GHQ method (0-0-1-1), and (3) C-GHQ method (0-0-1-1). The GHQ-12 (Chinese version) has been tested and validated in Chinese societies (Pan & Goldberg, 1990). In the present study, this questionnaire was applied to measure the participants' perceptions of their health status. Responses were coded using an un-weighted four-point Likert method (0-1-2-3).

Principal component analysis and internal reliability tests for General Health Status

The coefficient of α for the 12 items of the GHQ was 0.815 which showed good scale reliability and internal consistency. The values of Bartlett's test of sphericity (p = 0.000) and the KMO (0.821 greater than 0.7) were high and significant, which suggested that factor analysis was adequate for these data. The result of the PCA conducted with the 12 items measuring general health status identified a two-factor structure. The first factor, which contributed 33.35% of the total variance and the second factor contributed 19.61% of the

total variance. Examination of the Scree plot revealed that two components could be extracted with eigenvalues greater than 1 (see Figure 6.7).

Internal reliability of the two subscales was calculated. The 6 item Factor 1 scale had a value of α of 0.842 and the 6 item Factor 2 scale had an α of 0.786, both indicating good internal consistency.

Table 6.21 Principal component analysis of the General Health Questionnaire (12 items) with factor loadings after oblique rotation (Oblimin with Kaiser Normalisation) with two factors

		Factor 1	Factor 2
GHQ10	Been losing self-confidence in yourself?	.839	
GHQ9	Been feeling unhappy and depressed?	.830	
GHQ11	Been thinking of yourself as a worthless person?	.758	
GHQ5	Felt constantly under strain?	.714	
GHQ2	Lost much sleep over worry?	.684	
GHQ6	Felt that you couldn't overcome your difficulties?	.665	
GHQ3	Felt that you were playing a useful part in things?		.745
GHQ4	Felt capable of making decisions about things?		.725
GHQ8	Been able to face up to your problems?		.703
GHQ7	Been able to enjoy your normal day-to-day activities?		.693
GHQ12	Been feeling reasonably happy, all things considered?		.660
GHQ1	Been able to concentrate on whatever you are doing?		.637
Explained Variance		33.351	19.612
Cronbach's Alpha		0.843	0.786

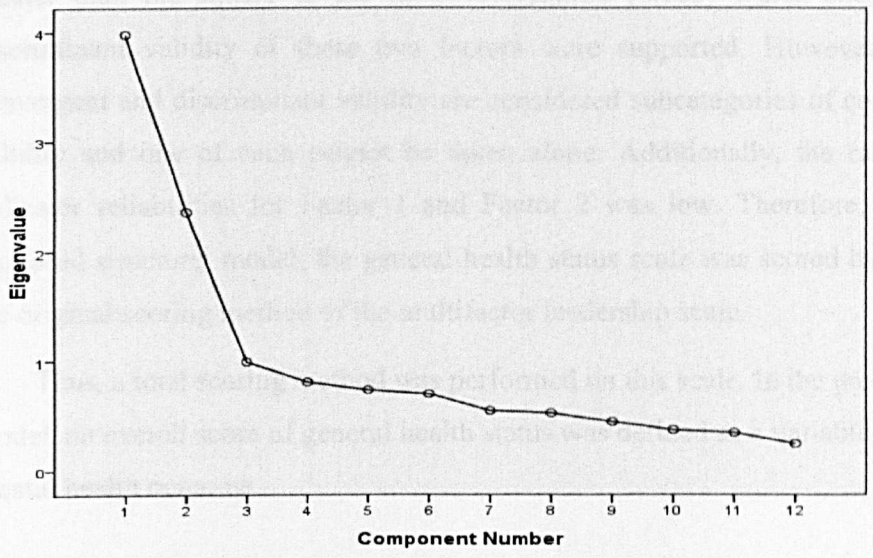


Figure 6.7 Scree plot for General Health Status

Confirmatory Factor Analysis of General Health Status

In the general health status scale, the indicator reliabilities for Factor 1 and Factor 2 were low. Regarding the range of indicator reliabilities for Factor 1, three items have low reliabilities (0.325; 0.292; 0.284). Additionally, the ranges of indicator reliabilities for Factor 2 were all lower than 0.5. Internal consistency of the general health status scale was calculated by composite reliability. Convergent and discriminant validity was performed to measure construct validity. In the general health status scale, the value of the composite reliability in the first factor and the second factor was 0.84 and 0.79 (exceeding 0.60), which demonstrated good inter-item reliability.

For the convergent validity test, in Factor 1 and Factor, all items loaded significantly within factor 1 exceeded 0.50 and this was considered as good convergent validity. The discriminant validity of the general health status scale was determined in two ways. Firstly, the correlations between the constructs and were examined. Another way to measure the discriminant validity of the general health status scale was by comparing the squared correlations between a pair of constructs with the AVE of two constructs. The correlation between two factors of the discriminant validity measurement is 0.321 (not exceeding

0.70) and the value of AVE was 0.482 for Factor 1 and was 0.38 for factor 2 is greater than the square of the factor correlation (0.103) which shows the discriminant validity of these two factors were supported. However, both convergent and discriminant validity are considered subcategories of construct validity and one of each cannot be taken alone. Additionally, the range of indicator reliabilities for Factor 1 and Factor 2 was low. Therefore, in the proposed structural model, the general health status scale was scored by using the original scoring method of the multifactor leadership scale.

Thus, a total scoring method was performed on this scale. In the proposed model, an overall score of general health status was defined as a variable of the mental health outcome.

Table 6.22 Confirmatory factor analysis of the General Health Questionnaire (12 items) with two factors

Standardised Factor Coefficients*			
		Factor 1	Factor 2
GHQ10	Been losing self-confidence in yourself?	.874	
GHQ9	Been feeling unhappy and depressed?	.810	
GHQ11	Been thinking of yourself as a worthless person?	.756	
GHQ5	Felt constantly under strain?	.570	
GHQ2	Lost much sleep over worry?	.540	
GHQ6	Felt that you couldn't overcome your difficulties?	.533	
GHQ3	Felt that you were playing a useful part in things?		.675
GHQ4	Felt capable of making decisions about things?		.649
GHQ8	Been able to face up to your problems?		.614
GHQ7	Been able to enjoy your normal day-to-day activities?		.615
GHQ12	Been feeling reasonably happy, all things considered?		.590
GHQ1	Been able to concentrate on whatever you are doing?		.548
$*p < 0.05$			
Average Variance Extracted		0.482	0.38
Composite Reliability		0.843	0.785
Correlation between factor		.321	
Goodness of Fit Statistic $\chi^{2:}= 392.139$ ($p < 0.000$); df = 53; $\chi^{2:}$/df = 7.399; RMSEA = 0.099; GFI = 0.901; AGFI= 0.854; NFI = 0.859; CFI = 0.875			

Table 6.23 presents the GHQ scores among the three different types of hospital ownership. The mean GHQ scores are 15.07 ± 5.02 (*M, SD*) in the private hospitals, follow by public hospitals (*M* = 14.52, *SD* = 5.19) and religious hospitals (*M* = 13.16, *SD* = 5.13). There was a statistically significant difference ($p < 0.01$) between the three types of hospital in general health status (see Table 6.24).

Table 6.23 GHQ scores among the three types of hospital ownership

	Private hospital N=267	Public hospital N=221	Religious hospital N=154	Overall N=642
Minimum	0	0	2	0
Maximum	32	31	26	32
Mean	15.07	14.52	13.16	14.42
Std. Deviation	5.02	5.19	5.13	5.15

Table 6.24 One-way ANOVA tests of between groups effects for general health status

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	349.861	2	174.951	6.798	.001
Within Groups	16673.567	648	25.731		
Total	17023.429	650			

Are Job Satisfaction and Organisational Commitment predictors of General Health Status?

Table 6.25 displays two variables that predict general health status, job satisfaction and organisational commitment, respectively. In terms of the organisational commitment variable, 15.1% of the variance in general health status was explained by organisational commitment, which was statistically significant ($p < 0.01$). Job satisfaction explained 15.9% of the variance in general health status, which was statistically significant ($p < 0.05$). The standardised (β) coefficient of organisational commitment predicting general

health status was -0.329, which meant the higher the level of organisational commitment, the higher the level of general health status. In terms of job satisfaction, the results showed that the level of general health status was significantly predicted by job satisfaction (β = -0.108; $p < 0.01$), which meant the higher the level of job satisfaction, the higher the level of general health status.

Table 6.25 Summary of multiple regression analyses for variables predicting General Health Status

	General Health Status			
Variables	R^2	B	SE B	β
Organisational Commitment	0.151	-0.14	0.018	-0.329**
Job satisfaction	0.159	-0.075	0.03	-0.108*

Note. *$p < 0.05$;**$p < 0.01$.

6.6. Phase II Model Development

Structural equation modelling (SEM) with AMOS version 16.0 was used to test the proposed model. First, CFA was performed to assess the structure of the scales in the present study. This was followed by a series of structural models constructed to test the research hypotheses.

What are the multiple correlations between predictors?

The measurement model included five latent variables: transformational leadership style, job content, job satisfaction, organisational commitment, and general health status. Table 6.26 shows the means, standard deviations, and the correlations of all variables in the model. All of the variables had statistically significant correlations ($p < 0.01$).

Table 6.26 Correlations for all the variables in the proposed model

Correlations	*M (SD)*	1	2	3	4	5
1. Transformational Leadership	32.36 (11.41)	1				
2. Supervisor Support	7.20 (2.27)	.735**	1			
3. Job Satisfaction	45.94 (7.33)	.475**	.518**	1		
4. Organisational Commitment	52.64 (12.01)	.321**	.359**	.552**	1	
5. General Health Well-being	14.43 (5.12)	-.151**	-.169**	-.289**	-.389**	1

Note. **. Correlation is significant at the 0.01 level .

Research questions

The aim of the research was to explore nursing leadership styles and the effects of leadership styles on the mental health outcomes of nurses. In light of the research purpose, the following broad questions were developed:

1) Could nurses' quality of working life be improved by increasing the strength of the transformational leadership style?
2) What is the relationship between transformational leadership style and job content?
3) Is it possible to raise social support in terms of supervisor support?
4) What are the multiple correlations among three mental health outcome variables?

According to research purpose and following research questions, the conceptual model presents a comprehensive overview which is then linked to the research hypotheses. A hypothesis was addressed under each question. To evaluate the effects of conceptual model, a structural equation modelling analysis is employed to test research hypotheses. The following hypotheses examine the main effects of transformational leadership styles and nursing mental health outcomes:

1. Could nurses' quality of working life be improved by increasing the strength of the transformational leadership style?

Hypothesis 1: The transformational leadership styles of nurse leaders would have an influence on nursing mental health outcomes.

2. What is the relationship between transformational leadership style and job content?

Hypothesis 2: The higher the level of transformational leadership the higher the level of perceived supervisor support.

3. Is it possible to raise social support in terms of supervisor support?

Hypothesis 3: The higher the level of supervisor support will indicate a higher level of job satisfaction.

Hypothesis 4: There will be a positive correlation between supervisor support and organisational commitment.

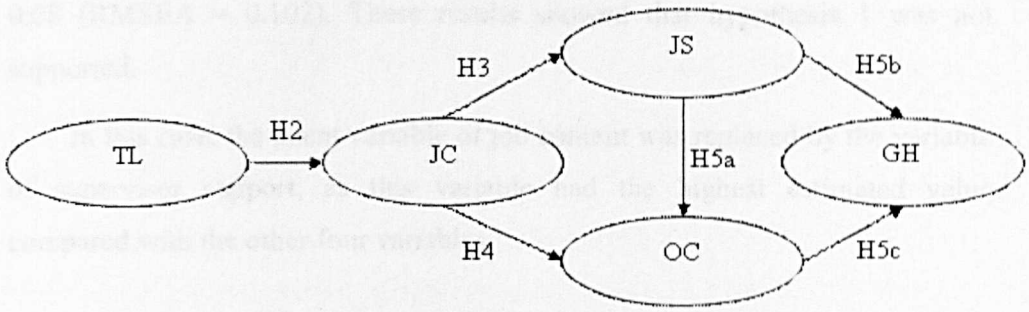
4. What are the multiple correlations among three mental health outcome variables?

Hypothesis 5a: The higher the level of job satisfaction, the higher the level of organisational commitment.

Hypothesis 5b: The higher the level of job satisfaction, the lower the level of poor general health well-being.

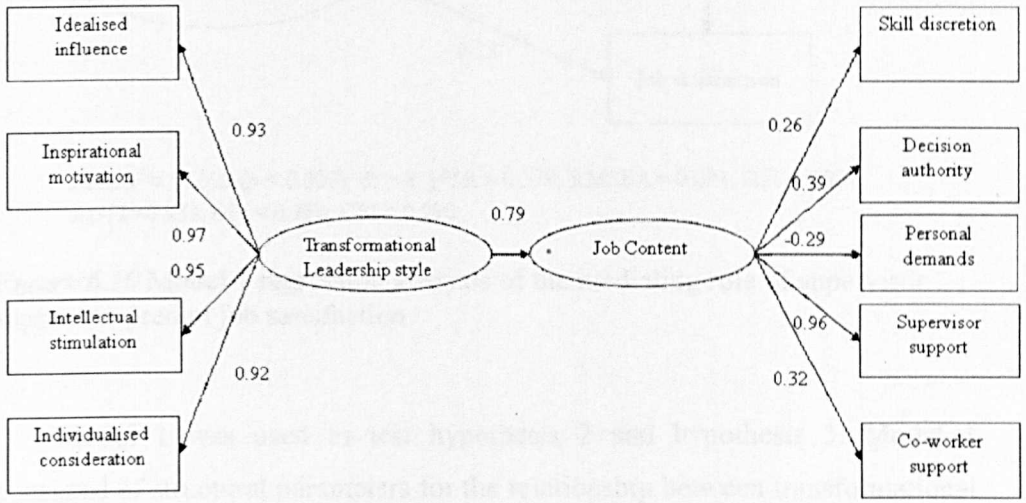
Hypothesis 5c: The higher the level of organisational commitment, the lower the level of poor general health well-being.

Figure 6.8 presents a proposed structural model of Study 2. This model was used to test hypothesis 1; the transformational leadership styles of nurse leaders would have an influence on nursing mental health outcomes.



Note. TL = Transformational Leadership Style; JC = Job Content; JS = Job Satisfaction; OC = Organisational Commitment; GH = General Health Status.

Figure 6.8 The proposed path model of relationship of Study 2



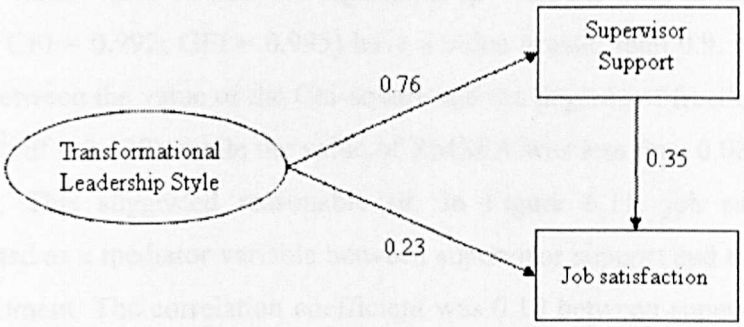
Note. $\chi^2 = 201.619$ ($p < 0.000$); df = 26; $\chi^2/df = 7.755$; RMSEA = 0.102; GFI = 0.937; AGFI = 0.891; NFI = 0.954; CFI = 0.960

Figure 6.9 The relationship between two latent variables: Transformational Leadership and Job Content

Figure 6.9 displays the structural parameters for the direct path of the relationship between transformational leadership and job content. The value of the correlation coefficient is 0.79 between the two latent variables, transformational leadership style and job content. The structural parameters were positive and significant. The Chi-square value was significant ($p < 0.01$) and the fit indices (NFI = 0.954; CFI = 0.960) had a value greater than 0.9. However, the ratio between the value of the Chi-square and the degree of freedom is greater than 3 ($\chi^2/df = 7.755$), and the value of RMSEA exceeds

0.08 (RMSEA = 0.102). These results showed that hypothesis 1 was not supported.

In this case, the latent variable of job content was replaced by the variable of supervisor support, as this variable had the highest estimated value compared with the other four variables.



Note. $\chi^2 = 51.029$ ($p < 0.000$); df = 8; $\chi^2/df = 6.379$; RMSEA = 0.091; GFI = 0.977; AGFI = 0.939; NFI = 0.988; CFI = 0.990

Figure 6.10 Model 1 regression analysis of the mediating role of supervisor support to predict job satisfaction

Model 1 was used to test hypothesis 2 and hypothesis 3. Model 1 consisted of structural parameters for the relationship between transformational leadership style and supervisor support; supervisor support and job satisfaction; and transformational leadership style and job satisfaction (see Figure 6.10). The Chi-square value was 51.029 and was statistically significant ($p < 0.000$). The fit indices (NFI = 0.988; CFI = 0.990; GFI = 0.977) have a value greater than 0.9. However, the ratio between the value of the Chi-square and the degrees of freedom was greater than 3 ($\chi^2/df = 6.379$), and the value of RMSEA exceeded 0.08 (RMSEA = 0.091).

In Model 1, the value of the correlation coefficient between supervisor support and job satisfaction was 0.35, which was greater than the value of the correlation coefficient between transformational leadership style and job satisfaction ($r = 0.23$). A high correlation between transformational leadership style and supervisor support ($r = 0.76$) was also found. As suggested by Baron and Kenny (1986), this demonstrates "the mediator function of a third variable,

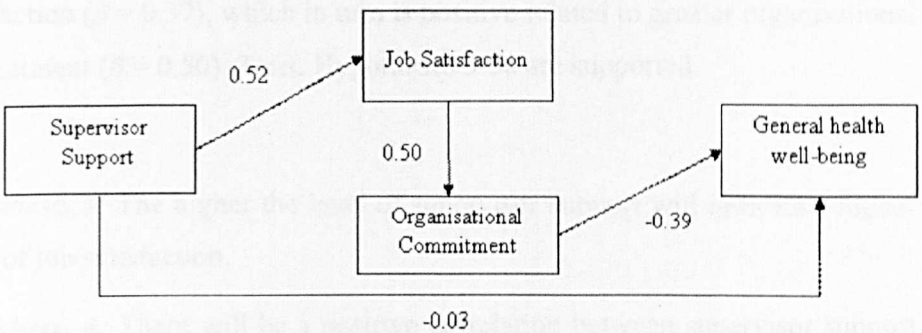
which represents the generative mechanism through which the focal independent variable is able to influence the dependent variable of interest". Therefore, in Model 1, supervisor support can be seen as a mediator in predicting job satisfaction.

Model 2 regression analysis tests of the mediating role of job satisfaction in predicting organisational commitment are shown in Figure 6.11. The Chi-square value was 6.24 and was significant (p = 0.044). The fit indices (NFI = 0.989; CFI = 0.992; GFI = 0.995) have a value greater than 0.9. However, the ratio between the value of the Chi-square and the degrees of freedom was close to 3 (χ^2/df = 3.120), while the value of RMSEA was less than 0.08 (RMSEA = 0.057). This suggested reasonable fit. In Figure 6.11, job satisfaction is presented as a mediator variable between supervisor support and organisational commitment. The correlation coefficient was 0.10 between supervisor support and organisational commitment. However, the correlation coefficient was 0.52 between supervisor support and job satisfaction, and the value was 0.50 between job satisfaction and organisational commitment. The relationship between supervisor support and organisational commitment was stronger through the mediator of job satisfaction. Thus, job satisfaction could be seen as an indicator in predicting organisational commitment.

Note. χ^2 = 6.240 (p = 0.044); df = 2; χ^2/df = 3.120; RMSEA = 0.057; GFI = 0.995; AGFI = 0.976; NFI = 0.989; CFI = 0.992

Figure 6.11 Model 2 regression analysis of the mediating role of job satisfaction in predicting organisational commitment

Model 3 display the direction of the path among the four variables of supervisor support, job satisfaction, organisational commitment, and general health well-being. The Chi-square value was 12.403 and was statistically significant ($p < 0.002$). The fit indices (NFI = 0.978; CFI = 0.981; GFI = 0.990) had a value greater than 0.9. However, the ratio between the value of the Chi-square and the degrees of freedom was greater than 3 (χ^2/df = 6.202), while the value of RMSEA was slightly greater than 0.08 (RMSEA = 0.089). Model 3 did not have as good a fit, but acceptable nonetheless. The value of the correlation coefficient was -0.38 between organisational commitment and general health well-being. This meant the higher the level of organisational commitment, the higher the level of general health status.



Note. χ^2 = 12.403 (p = 0.002); df = 2; χ^2/df = 6.202, RMSEA = 0.089, GFI = 0.990, AGFI = 0.952, NFI = 0.978; CFI = 0.981

Figure 6.12 Model 3 regression analysis of the mediating role of organisational commitment in predicting general health well-being

The results from the final model of Study Two are presented in Figure 6.13. This model consists of structural parameters for the following: 1) direct path between transformational leadership and supervisor support; 2) direct path between transformational leadership and job satisfaction; 3) indirect path between supervisor support, job satisfaction, and general health well-being; 4) indirect path between transformational leadership style and all variables. Fit of the overall model was assessed. It indicates that a Chi-squared value of 0.241 (df = 3; p = .971) and the fit indices (CFI = 1; TLI = 1.009; NFI = 1.000) have value greater than 0.9 which indicates good model fit. In addition, the value for

RMSEA is less than .05 (RMSEA = .000). This implies a good model fit (Hypothesis 1 is supported). The model was tested by estimating all the hypothesised paths. Non-significant paths were dropped in a stepwise fashion so that only significant paths are presented. Although, this result showed a near-perfect model fit. According to the degree of freedom (df = 3) which is small, it might caused by all the variables are identified. However, from the results of a good model fit with large sample size, it strengthens the hypotheses of the conceptual model.

The results presented in Figure 6.13 and Table 6.27 show that transformational leadership had direct influence on supervisor support (β = 0.74). More transformational leadership behaviours are related to greater supervisor support. Greater supervisor support is related to greater job satisfaction (β = 0.37), which in turn is positive related to greater organisational commitment (β = 0.50). Thus, Hypotheses 3-5a are supported.

Hypothesis 3: The higher the level of supervisor support will indicate a higher level of job satisfaction.

Hypothesis 4: There will be a positive correlation between supervisor support and organisational commitment.

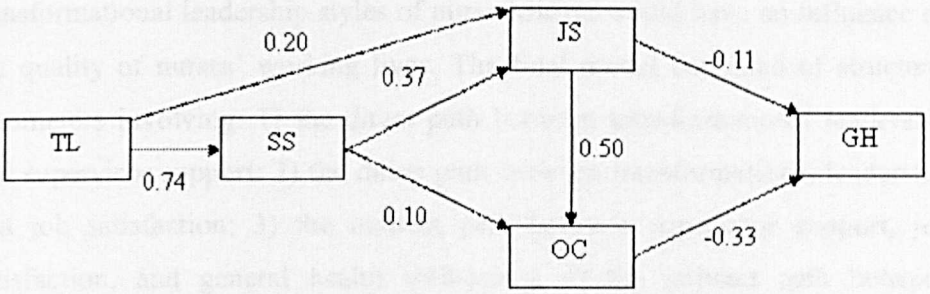
Hypothesis 5a: The higher the level of job satisfaction, the higher the level of organisational commitment.

Hypothesis 5b: The higher the level of job satisfaction, the lower the level of poor general health well-being.

Hypothesis 5c: The higher the level of organisational commitment, the lower the level of poor general health well-being.

According to this result, it implies that supervisor support has mediation effect on the relationship between transformational leadership behaviours and job satisfaction. In addition, the effect of supervisor support on the level of the organisational commitment is buffered by job satisfaction. Similarly, the results shown in Figure 6.13 indicate that the higher the level of job satisfaction

is related to better general health well-being (β = -0.11). Thus, Hypothesis 5b is supported. More commitment to the organisation had better general health well-being (β = -0.33). Thus, Hypothesis 5c is supported.



Note. TL = Transformational Leadership Style; SS = Supervisor Support; JS = Job Satisfaction; OC = Organisational Commitment; GH = General Health Status.

Figure 6.13 The final model of Study Two

Table 6.27 Regression weight of the final model of Study 2

Parameter Estimate	*Unstandardized* β (SE)	*Standardized* β	*p*
Structural Model			
Transformational Leadership → Supervisor Support	0.146 (0.005)	0.735	***
Transformational Leadership → Job Satisfaction	0.131 (0.031)	0.205	***
Supervisor Support → Organisational Commitment	0.532 (0.202)	0.100	0.008
Supervisor Support → Job Satisfaction	1.189 (0.158)	0.368	***
Job Satisfaction → Organisational Commitment	0.819 (0.062)	0.500	***
Job Satisfaction → General health well-being	-0.075 (0.030)	-0.108	0.012
Organisational Commitment → General health well-being	-0.140 (0.018)	-0.329	***

Note. *** $p < 0.001$

CHAPTER Six: Summary and Conclusion

Study Two was carried out in the Chapter Six of the thesis. It was a quantitative study which followed on from the previous qualitative study's (Study One). The hypothesis of the present research assumed that transformational leadership styles of nurse leaders would have an influence on the quality of nurses' working lives. The final model consisted of structural parameters involving: 1) the direct path between transformational leadership and supervisor support; 2) the direct path between transformational leadership and job satisfaction; 3) the indirect path between supervisor support, job satisfaction, and general health well-being; 4) the indirect path between transformational leadership style and all variables.

The results presented in Figure 6.13 showed that transformational leadership had a direct influence on supervisor support (β = 0.76). More transformational leadership behaviours predicted greater supervisor support. Greater supervisor support predicted greater job satisfaction (β = 0.35), which in turn predicted greater organisational commitment (β = 0.50). More commitment to an organisation predicted better general health status (β = -0.33). Our model demonstrates a complete picture of the work relationships on quality of nurses' working.

Chapter 7: Discussion and Conclusions

The overall purpose of this thesis was to address the current status of nursing leadership styles in Taiwanese hospitals and to develop a relationship model of nursing leadership style and mental health outcomes. This thesis began with a background introduction of the health care system and organisational structure in Taiwanese hospitals (Chapter One). Then, a comprehensive literature review on nursing leadership style raised the issue of how creative a nursing role can be and how it can contribute to the effectiveness of health care organisations (Chapter Two). Although the nursing leadership literature is saturated, the process of how the leader influences subordinates to accomplish their goals within organisations is vague in Taiwanese nurses. Given the lack of research on exploring the relationship between transformational nursing leadership and the quality of nursing work life in Taiwan, the present thesis took the approach of exploring transformational nursing leadership in three types of Taiwanese hospitals and developing a relationship model to explore the relationship between each mental health related variables (Chapter Three). Additionally, descriptions of how to explore the research objectives by applying both qualitative and quantitative study designs together were presented in Chapter Four.

Chapter Five investigated the Taiwanese nursing concept of leadership and mental health legislations within hospitals. Study One was discussed within this chapter. Chapter Six discussed Study One, which utilised a questionnaire to examine the interactive process among transformational nursing leadership, job nature, organisation, and well-being. Transformational nursing leadership style was suggested to have a direct influence on the dimension of supervisor support. More transformational leadership behaviours resulted in subordinates perceiving greater supervisor support. In the final chapter (Chapter Seven), the results and recommendations of the research are discussed. The structure of this chapter is presented in Figure 7.1. A summary of the study findings, the research strengths and limitations, and suggestions regarding possible interventions are addressed in the present chapter. Possible ways to improve

nursing leadership and workplace health promotion in terms of leader training are also discussed.

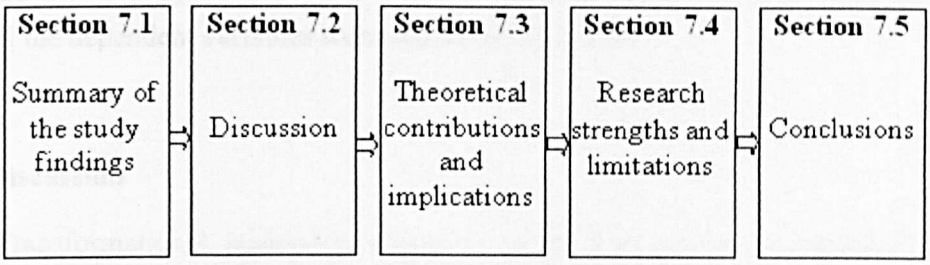


Figure 7.1 Chapter Seven structure

7.1. Summary of the study findings

The objective of the first study was to investigate nursing leadership styles in three types of Taiwanese hospitals and the influence of these styles on the mental health of nurses. In Study One of the thesis, a total of 21 interviews were conducted from three types of hospital in Taiwan. In–depth interviews were preformed with head nurses. Nursing leadership style was seen as a professional competency to ensure quality of care and patient safety. It is important to note how the interviewees defined nursing leadership style and the influences of different leadership styles. The results from Study One suggested that the information provided by interviewees from different job positions was inconsistent. In addition, some of the interviewees felt that it was not easy to exactly define the behaviours of their leader. The most challenging thing was that their leader might not easily be defined as displaying one certain type of leadership style. It tended to depend on what kind of situation those leaders were dealing with at that moment. It also depended on the intensity of their leaders' workload. In the second study, the concept of nursing leadership style was carried out from Bass's full-range leadership theory. The hypothesis of Study Two assumed that transformational leadership styles of nursing would have an influence on the quality of nurses' working lives. The results of Study Two illustrated that transformational leadership contributed to supervisor support significantly. Workplace support, especially from supervisors, is an important mediator variable that explains the relationship between

transformational leadership and job satisfaction. Organisational commitment can be more predictive of general health well-being in Taiwanese nurses compared with job satisfaction. Through the proposed final structural model, the hypothesised positive relationships between transformational leadership and all the dependent variables were supported by the data.

7.2. Discussion

Transformational leadership continues to predominate in occupational health care studies (McNaron, 2009; Suliman, 2009; Wylie & Gallagher, 2009). A growing body of nursing research has addressed the significance of the relationship between transformational leadership and job satisfaction of nurses (see Chapter Three). Transformational leadership can create a motivating vision and enhance job performance. However, the relationship of transformational leadership and work related mental health variables is not clearly understood. Besides, leadership is an interactive process between a leader and a subordinate. The subordinate perceptions of a leader are important in that they explain, first, how the subordinate perceives the behaviours of a leader, and the causal relations by which these perceptions translate into the mental health outcomes of the subordinate.

The present thesis aimed to gain a better understanding of the relationship between transformational leadership and work related mental health variables of nurses in Taiwanese hospitals. The relationship between all the variables and associations between key variables, transformational leadership, job content, job satisfaction, organisational commitment and general health well-being, are discussed in the following sections.

Transformational leadership

The Multifactor Leadership Questionnaire (MLQ; Bass & Avolio, 1995) was used to assess the nursing transformational leadership style in Taiwan. Based on findings from the factor analyses (see Table 6.3 and 6.4), poor construct validity was found in the second factor of MLQ (transactional leadership). Thus, in Study Two, transformational leadership style was scored

by using the original scoring method (Bass & Avolio, 1995). The MLQ used four subscales, which measured four dimensions of transformational leadership. The four dimensions of the MLQ were idealised influence, inspirational motivation, intellectual stimulation, and individualised consideration. Results revealed high inter-correlations among all of the subscales. Hence, transformational leadership will be the main focus of the following discussion.

The influence of transformational leadership on Job nature

The Job Content Questionnaire (JCQ) based on Karasek's model was used to measure job characteristics. It was hypothesised that there would be significant correlations between transformational leadership style and job content. In Study Two, significant correlations (see Table 6.7) between transformational leadership and all of the five subscale of the JCQ were found (r = 0.225 to 0.748, $p < 0.01$). The results of these analyses supported the present hypothesis. A highly positive correlation was also found between transformational leadership and supervisor support (correlation coefficients; r = 0.748, $p < 0.01$). Prior research has reported the relationship between transformational leadership and job characteristics to be important as job characteristics were found to be related to intrinsic motivation with statistical significance (Piccolo & Colquitt, 2006). In Study Two, job characteristics in terms of supervisor support partially mediated the relationship between transformational leadership and job satisfaction (see Figure 6.10).

Job Satisfaction

In terms of job satisfaction, the highest job satisfaction scores (M = 46.51; SD = 7.74) were seen in the public hospital. However, there was no statistically significant difference among the three types of hospital. It is more likely that ownership had less influence on job satisfaction of nurses. Although the highest job satisfaction scores were found in the public hospital nurses, these scores were lower than other professions (M = 47.62; SD = 8.47) in Taiwan (Siu, Spector, Cooper, Lu, & Yu, 2002). Regarding the relationship between transformational leadership and job satisfaction, a single regression of

transformational leadership predicting job satisfaction was statistically significant ($p < 0.01$) with 35% of the variance in job satisfaction explained by transformational leadership (see Table 6.11). These findings are consistent with previous studies showing there to be a positive relationship between transformational leadership and job satisfaction (Medley & Larochelle, 1995; Morrison, Jones, & Fuller, 1997; Robbins & Davidhizar, 2007).

Moreover, in the relationship between job satisfaction and organisational commitment, Blegen (1993) found that job satisfaction was strongly associated with organisational commitment ($r = 0.526$) and this is consistentce with our study findings (see Table 5.17). Job satisfaction and organisational commitment had positive correlations ($r = 0.552$, $p < 0.01$). In addition, the results of this study showed that job satisfaction was a mediator of job characteristics and organisational commitment.

Organisational Commitment

A self-scoring questionnaire (Organisational Commitment Questionnaire; OCQ) was used in Study Two to investigate the levels of organisational commitment of nurses in three types of hospital. The highest scores of organisational commitment were found in the religious hospitals ($M = 55.60$, $SD = 11.91$) compared with the other types of hospital. In addition, the results revealed that there was a statistically significant difference ($p < 0.01$) in organisational commitment level between the three types of hospital. The lowest scores of the OCQ were found in private hospitals ($M = 49.44$, $SD = 12.21$). Based on our findings, in different types of hospital, it showed distinct level of organisational commitment. Hospital ownership was also associated with organisational commitment (Chiu, Chung, Wei, & Yaung, 2003). These findings might imply that organisational culture/climate could be a potential influence factor on organisational commitment.

Organisational commitment is more likely related to the mental well-being of Taiwanese nurses compared to job satisfaction. The present findings indicate that the level of organisational commitment was a stronger predictor of the mental well-being of Taiwanese nurses than job satisfaction.

Mental Health and Well-Being

Nursing is a highly demanding profession worldwide. Although the highest job satisfaction scores were found in public hospitals, the lowest GHQ scores were seen in religious hospitals ($M = 13.16$, $SD = 5.13$). Moreover, high scores from the GHQ indicated worsening mental well-being. In the present thesis, the GHQ scores of Taiwanese nurses were lower than the nurses in western countries (Johnson et al., 2005). This suggests that the self-perception of mental well-being in Taiwanese nurses is better than the nurses working in the UK. The findings from the present thesis suggest that training nursing leaders to apply a transformational leadership style in the workplace will not only increase nurses' job satisfaction, but will also raise organisational commitment consequently. In the proposed analytical model, through the causal paths, supervisor support was an important factor that contributed to the quality of a nurse's working life. The most striking finding from the present results was, that subordinates perceived higher levels of support from their nursing leaders, who engaged in transformational leadership behaviours, and this led to higher levels of job satisfaction.

One of the important suggestions from the final structural model of Study Two is that transformational leadership behaviours can have an influence on the quality of nursing working life through indirect paths. Nursing leaders play a challenging role in the workplace and contribute to the effectiveness of a health care organisation. The present findings provide clearer information about the contribution of nursing transformational leadership behaviours in hospital settings. Numerous studies have discussed the relationship between job satisfaction and organisational commitment in health care organisations. In the present thesis, a hierarchical model with stepwise fashion was used to examine the causal relationship between transformational nursing leadership and mental health outcomes of nurses. Work attitudes, such as values and motivations, are highly associated with organisational commitment. As a result, work values and motivation can be important predictors for organisational commitment. The present findings also showed high statistically significant correlations between job satisfaction and organisational commitment (r = 0.552). Both job satisfaction and organisational commitment are strong

predictors of nurses' work performance (Al-Ahmadi, 2009). However, how does leader behaviour influence staff satisfaction? In the present thesis, job performance was positively correlated with organisational commitment, job satisfaction and personal and professional variables. Supervisor support is one of the factors that have an influence on psychosocial work characteristics. It has been used to explore the relationship between work demands and work related health outcomes. The present findings showed a statistically significant correlation between transformational leadership behaviours and supervisor support (r = 0.735). In the causal model, greater transformational leadership behaviours predicted greater supervisor support (β = 0.76). Thus, there is strong evidence to suggest that nursing staff who are more satisfied with their work have a better quality of working life. Nurses deliver care to patients and when nursing staff are satisfied with their employment, patient satisfaction rises (Robbins & Davidhizar, 2007).

Transformational leadership continues to predominate in health care studies (McNaron, 2009; Suliman, 2009; Wylie & Gallagher, 2009). Nevertheless, a growing body of nursing research has addressed the significance of the relationship between transformational leadership and job satisfaction of nurses. Ideally, transformational leadership will create a motivating vision and enhance job performance. However, the relationship between transformational leadership and work related mental health variables are not clearly understood. In present thesis, it was expected that the transformational leadership styles of nursing leaders would influence the mental health outcomes of nurses. Based on the main hypotheses of the present research, the results of the included studies were presented in the final analytical model, which revealed a positive relationship between nursing transformational leadership and general health status. In the final structural model, the results have shown that supervisor support plays a mediator role between transformational leadership styles and job satisfaction. The factor of supervisor support has a dramatic influence on employees' job satisfaction compared with other influential factors. In comparison with work demands, supervisor support plays an important role that is more likely to influence the health outcomes of nurses. Supervisor supported nurses with their work

demands and it was identified to be highly associated with transformational behaviour. Supervisor support is one key dimension of transformational leadership behaviour and it increases the job satisfaction of nurses. This result is concordant with previous studies (Seo, Ko, & Price, 2004). The subordinates tend to have a higher level of job satisfaction when they perceive supervisor support as a specific behaviour of transformational leadership. This provides a valuable contribution to the subordinates' perceptions of transformational leadership styles in terms of job satisfaction. Besides, leadership is an interactive process between a leader and a subordinate. The subordinates' perceptions of a leader are important as they reveal information about how subordinates perceive the behaviours of their leader and the causal relationship by which these perceptions translate into the mental health outcomes of the subordinate. In present thesis, transformational leadership style also plays an important role in both job satisfaction and organisational commitment of nurses. Regarding the quality of nursing working life, job satisfaction and organisational commitment are particularly influential.

Regarding the demographic background of the nurses, the results of the present thesis have showed that the age of the Taiwanese nursing workforce was lower than the western countries. The average age of employed nurses in Taiwan was 30.5 (*SD = 6.2*) years. This could indicate that the nursing profession in Taiwan might have difficulty with retaining its workforce. Hu and colleagues (2010) reported that overtime is one of the predominant outcomes related to the nursing workforce. In addition, excessive workload has been reported by 44.8% of Taiwanese nurses as one of the main reasons for quitting their jobs (National Union of Nurses' Association, 2010). This may explain the unfavourable number of people entering, or remaining within the nursing profession. However, in western developed countries, the average age of employed nurses was more than 40 years (Buchan & Calman, 2004). The nursing profession is related to an ageing problem and this could be explained by fewer people entering the nursing profession in western developed countries.

Regarding ownership of hospital, it is more likely that ownership had less influence on job satisfaction of nurses. Job satisfaction scores reported by the nurses were lower than other professions in Taiwan (Siu, et al., 2002).

Regarding organisational commitment, the lowest scores on organisational commitment between the three types of hospital were found in private hospitals. Similarly, hospital ownership was associated with organisational commitment. This implies that organisational culture/climate could be a potential factor and may influence organisational commitment. There was a positive correlation between job satisfaction and organisational commitment. A similar result was reported by Blegen (1993). Organisational commitment was more closely related to mental well-being than job satisfaction.

7.3. Theoretical contributions and implications

The findings of the present research showed a positive relationship between nursing transformational leadership and general health status. In our proposed final structural model, the results have shown that supervisor support plays a mediator role between transformational leadership styles and job satisfaction. The factor of supervisor support has a dramatic influence on employees' job satisfaction compared with other factors. In comparison to work demands, supervisor support plays an important role that is more likely to influence the health outcomes of nurses in terms of job characteristics. Supervisor support was one of the job characteristics and it was identified to be highly associated with transformational leadership behaviour. The factor of supervisor support is a key dimension of transformational leadership behaviour and it increases the job satisfaction of nurses. This result is concordant with previous studies (Seo, et al., 2004). The subordinates tend to have a higher level of job satisfaction when they perceive their supervisor support as a specific behaviour of transformational leadership. This provides a valuable contribution to the subordinates' perceptions of transformational leadership styles in terms of job satisfaction. Besides, leadership is an interactive process between a leader and a subordinate. The subordinates' perceptions of a leader are important as they reveal information about how subordinates perceive the behaviours of their leader and the causal relationships by which these perceptions translate into the mental health outcomes of the subordinate. In our research, transformational leadership style also played an important role in both job satisfaction and organisational commitment of the nurses.

Implications for future research

Further research based on the results of the present study would be beneficial. Training nursing leaders to apply transformational leadership behaviours in the workplace might have a positive impact on the mental health outcome of nurses. Future research should design educational programmes as interventions which aim to teach how to use transformational leadership in a hospital setting. Although much research has focused on work stress in health care professionals such as nurses, most of the studies are focused on individual interventions, such as stress management. Therefore, conducting transformational leadership education programmes as organisational interventions in future research may enhance employees' satisfaction and commitment to their organisation.

An appropriate leadership style can lead to better emotional well-being of nurses and improve organisational commitment. Workplace mental health promotion programmes and legislations can act as a buffer to enhance mental health outcomes. The implications of the present study's findings are that, theoretically, they can provide more understanding about the relationship between nurse leadership and nurses' mental health outcomes. On a more practical level, the findings could also be used as a reference to improve leadership styles and further promote organisational health.

Workplace health promotion

As employees spend more than half of their lifetime working, the workplace could be a good place to improve employees' health behaviours. The question addressed in the present thesis is: can health promotion interventions aimed to encourage leaders to engage in transformational leadership behaviours be used in health care settings? The results of the present study suggest that encouraging leaders to use transformational leadership behaviours may be helpful in enhancing organisational commitment. Thus, transformational leadership styles could provide a basis for health promotion interventions which could be applied in health care settings.

7.4. The research strengths and limitations

Strengths of the research

The present study had several strengths, as discussed above. The present thesis produced a number of findings that illustrate the influences of transformational leadership in Taiwanese nurses. It also provided a comprehensive overview of work related mental health outcomes. With the large sample size (N = 651) and the high response rate (N = 651/807, 80.7%) indicated that the allowance of category variable detection and the effect of response bias were likely to be minimal. The present thesis also contributes to the Taiwanese nursing field, as well as provides a starting point from which researchers can further develop the present research model within the nursing profession.

Although transformational nursing leadership has been investigated separately in western countries (N. E. Blegen & Severinsson, 2011; Brady Germain & Cummings, 2010), there have been no published studies, as far as the author knows, that have developed a hierarchal model using Structural Equation Model (SEM) to exploring the relationships between transformational leadership, job content, work attitudes, and general health status.

Limitations of the research

The findings of the present research regarding leadership styles might not be able to be applied to male leaders from other occupational fields. There are several limitations that have been identified within the present research. There may be other moderating factors which influence the general health status of nurses, such as family demands, work condition and climate. In terms of job satisfaction and organisational commitment, several characteristics are significant in relevance to job satisfaction (ethnicity, gender), organisational commitment (patient load, mandatory overtime, shifts, and unit type) and intention to stay (income, age). These factors have not been measured in the present research and the absence of these factors may raise the weakness of the model constructs. In addition, as in all cross-sectional studies, we only took measures at one time point and relied on self-administered questionnaires,

which may lead to bias. However, with a substantial size of the participants and high response rate, these problems may be minimized.

7.5. Conclusion

The aim of this study was to gain a better understanding of the relationship between transformational leadership and work related mental health variables of nurses in Taiwanese hospitals. The present research focused on revealing the relationships between the key variables, including transformational leadership, job content, job satisfaction, organisational commitment, and general health well-being. One of the important findings of the final structural model was that transformational leadership behaviours can have an influence on the quality of nursing working life through indirect pathways. Nurse leaders have a challenging role in the workplace and contribute to the effectiveness of health care organisations. Our research provides clear information about the contribution of nursing transformational leadership behaviours in hospital settings. In this thesis, a structural model was proposed to examine the relationships between nursing transformational leadership and the mental health outcomes of nurses. The result shows high statistically significant correlations between job satisfaction and organisational commitment. Additionally, our research showed a statistically significant correlation between transformational leadership behaviours and supervisor support (r = 0.735). In the proposed final model, greater transformational leadership behaviours revealed greater supervisor support (β = 0.76). Nursing staff who are more satisfied with their work will have a better quality of working life. As employees spend around half of their waking life at work, the workplace should be a good area to improve employees' health behaviours. The results of the thesis suggested that encouraging leaders to use transformational leadership behaviours may be helpful in enhancing organisational commitment. Thus, transformational leadership styles may provide a basis for health promotion interventions applied in health care settings.

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Appendices

Appendix A

INVITATION LETTER

Institute of Work, Health & Organisations
http://www.i-who.org

The University of Nottingham

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Director
Professor Tom Cox *CBE AcSS FBPsS*
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To whom it may concern,

The letter is asking for support an ongoing research project looking at organisational structure and leadership style of nursing in Taiwan hospitals by the Institute of Work, Health & Organisations (I-WHO), University of Nottingham, United Kingdom. I-WHO is an internationally acknowledged postgraduate research institute in applied psychology and a World Health Organisation (WHO) Collaborating Centre in Occupational Health.

The proposed study aims to understand the management system and the leadership style of nursing in three kinds of ownership of the hospitals. It will also explore the factors which contribute to improving organisational health, increasing employees' productivity and ensuring the quality of nursing care in Taiwan hospitals.

Occupational health and safety conscious awake, the government build up health policy to protect their work right. In Taiwan, the health service workers are protected by labour standard act (announced in 1984) and labour safety and health act (announced in 1974). However, it still does not prevent all the health problems related to employment and occupational injury and still exist in health care organizations. Research has demonstrated that improving organisational health is important to increase employees' productivity and to ensure quality of nursing care. Therefore, the letter is inviting you to take time to share your professional knowledge with our representative of the I-WHO research team.

A number of research methods will be used as part of this research, including background survey and interviews.

Interviews will be conducted with management level employees (personnel, accounting, social work, labour safety and health department, and nursing department.) in Taiwan hospitals.

The aim is to build up a basic knowledge of the organisational structure and leadership style of nursing in Taiwan hospitals and to inform further studies. The interviews will be conducted by face to face. Each interview proposed to last for approximately 30 minutes. The schedule consists of 5 sections. These focus on:

- Demographic information
- Information of internal organisation legislation
- Understanding of labour safety and health act issues
- General view of nursing issues
- Leadership styles in nursing

Institute of Work, Health & Organisations
http://www.i-who.org

The University of Nottingham

The interview schedule was constructed by the researcher on the basis of the literature. All interviews are going to be conducted in interviewee's mother tongue. Please had attached research proposal and interview schedule.

At every phase of the research, ethical standards will be ensured by the Ethical Committee of the Institute of Work, Health & Organisations. Data collected will remain strictly anonymous and confidential and no individual company or worker will be identified in reports or scientific publications written on the basis of the research findings.

The results will be presented in the form of a report; it will contain details about the methods used and the results of the analyses. Finally, the recommendations and summary of the report will be made available to anyone who interested.

The research team believes that improving organisational health will raise employees' productivity and quality of nursing care. This is a great economic benefit for all of the health care organisations. Our research team will be really grateful if you consider our request.

Thank you for your consideration of our request and look forward to your favourable reply. Feel free to contact Miss Ping-Yi Lin of the research team at (886) 919015185 or (44) 7789591413 (UK) or email at lwxpyl@nottingham.ac.uk, if your have any enquiry concerning the study.

Yours sincerely,

Representative of the I-WHO research team
Ping-Yi Lin BSc MPH
Doctoral Researcher in Applied Psychology

Appendix B

INTERVIEW SCHEDULE

Time: 30 to 40 minutes
Location: Hospitals' meeting room

Participants:

1. Hospitals' managers in administration department including personnel, accounting, social work and labour safety and health department.
2. Director of nurse and supervisors in nursing department.

The contents of the questionnaire:

SECTION 1: DEMOGRAPHIC INFORMATION

YOU AND YOUR JOB

1. Job title:
2. Gender:
3. Age:
4. Ethnicity:
5. Marital status:
6. Education level:
7. Number of working years as a manager:
8. Number of years in the organisation:

SECTION 2: INFORMATION OF INTERNAL ORGANISATION LEGISLATION

YOUR UNDERSTANDING OF THE HOSPITAL'S LEGISLATION

1. Could you describe your meaning of successful organisation and your views of your organisation?
2. Do you know any internal organisation legislations and describe your meaning of internal organisation legislations?
3. Have you ever contribute to making hospital's legislation and describe that situation?
4. How important it is to establish internal legislations and what is the influence of internal legislations?

SECTION 3: THE UNDERSTANDING OF LABOUR STANDARD ACT

YOUR UNDERSTANDING OF LABOUR STANDARD ACT

1. Do you know what labour standard act is and describe your understanding of the labour standard act?
2. What is the difference between internal legislation and act?
3. What is the most effectiveness way to ensure employees working healthy and how does it work?

SECTION 4: THE UNDERSTANDING OF LABOUR SAFETY AND HEALTH ACT

YOUR UNDERSTANDING OF LABOUR SAFETY AND HEALTH ACT

1. Could you describe what labour safety and health act is and how

important
it is?

2.Could you describe any labour safety and health act relevant to psychological well-being and your understanding of quality of working life?

SECTION 5: GENERAL VIEW OF NURSING ISSUES

YOUR GENERAL VIEW OF NURSING ISSUES

1.What is the duty of the nurse managers and how they are given power in their role?

2.Could you describe your meaning of good quality of the patient care and how important it is relevant to hospitals?

3.Is there any opportunity for further study or professional development in the skill set in nursing?

SECTION 6: THE LEADERSHIP STYLE IN NURSING

YOUR PERCEPTION OF THE LEADERSHIP STYLE IN NURSING

1.Could you describe the meaning of the leadership and how does it affect nursing outcome?

2.Do you believe the major components of a successful organisation that support nursing and how do you implement these components in your leadership style?

3.Could you describe what skills are required at the most in leadership and how are nurse leaders learning those skills?

4.Could you describe what leadership style you might be using and why you
are using this leadership style?

5.Could you describe how you are able to build trust and maintain faith in your followers? (build trust)

6.Have you consider about the moral and ethical consequences of your actions? (acts with integrity)

7.Could you describe or give an example about how you inspire others and whom are you inspiring? (inspires others)

8.Could you describe how you help others to think old problems in new ways
and how important it is? (encourages innovative thinking)

9.Could you describe how to coach and treating people? (coach people and individual consideration)

10.Have you ever tell others what to do in order to be rewarded
and what you expect from them?

Appendix C

PARTICIPANT CONSENT FORM FOR RESEARCH STUDY

Participant Consent Form

Title of Study: Nursing leadership style in different types of hospitals in Taiwan and mental health outcome of nurses

The aim of the research is to understand the management system and the leadership style of nursing in three kinds of ownership of hospitals. It will also explore the factors which contribute to the improvement of organisational health, to increasing employees' productivity and to ensuring the quality of nursing care in Taiwan hospitals.

All the interview content will be recorded on tape. The content of the tapes will not be disclosed to anyone outside the research team at I-WHO and will not be used for any purpose outside this project. The tapes will be stored according to data protection procedures.

	Please tick to confirm
1. I agree to participate in this research	☐
2. This agreement is of my own free will	☐
3. I have had the opportunity to ask any questions about the study	☐
4. I will not have to answer any questions that I find upsetting	☐
5. I realise that I may withdraw from the study at any time, without giving a reason and without any effect on my work; Similarly, I may switch off the tape recorder at any time during the interview	☐
6. I have been given full information regarding the aims of the research and have been given information with the Researcher's names on and a contact number and address if I require further information.	☐
7. All personal information provided by myself will remain confidential and no information that identifies me will be made publically available	☐
8. Any material used in project reports, academic papers or feedback to the organisation will be used anonymously and will not identify me in any way	☐

Signed: .....Date: .....

(*by participant*)

Print name: .....

Signed: ..... Date: .....

(Signed on behalf of researchers)

Print Name: .....

Researcher's names: Ping-Yi Lin

Contact number: 07789591413; E-mail: lwxpyl@nottingham.ac.uk

When complete, 1 copy to participant and 1 copy for researcher

Appendix D

QUESTIONNAIRE

SECTION 1: MULTIFACTOR LEADERSHIP SCALE

This questionnaire provides a description of your leadership style. Twenty-one descriptive statements are listed below.

Judge how frequently each statement fits you. The word others may mean your followers, client, or group members. **Please tick one box per row**

	Not at all	Once in a while	Sometimes	Fairly often	Frequently, if not always
1. I make others feel good to be around me	☐	☐	☐	☐	☐
2. I express with a few simple words what we could and should do	☐	☐	☐	☐	☐
3. I enable others to think about old problems in new ways	☐	☐	☐	☐	☐
4. I help others develop themselves	☐	☐	☐	☐	☐
5. I tell others what to do if they want to be rewarded for their work	☐	☐	☐	☐	☐
6. I am satisfied when others meet agreed-upon standards	☐	☐	☐	☐	☐
7. I am content to let others continue working in the same way as always	☐	☐	☐	☐	☐
8. Others have complete faith in me	☐	☐	☐	☐	☐
9. I provide appealing images about what we can do	☐	☐	☐	☐	☐
10. I provide others with new ways of looking at puzzling things	☐	☐	☐	☐	☐
11. I let others know how I think they are doing	☐	☐	☐	☐	☐
12. I provide recognition/rewards when others reach their goals	☐	☐	☐	☐	☐
13. As long as things are working, I do not try to change anything	☐	☐	☐	☐	☐
14. Whatever others want to do is OK with me	☐	☐	☐	☐	☐
15. Others are proud to be associated with me	☐	☐	☐	☐	☐
16. I help others find meaning in their work	☐	☐	☐	☐	☐
17. I get others to rethink ideas that they had never questioned before	☐	☐	☐	☐	☐

SECTION 3: GENERAL HEALTH STATUS

There are 12 items to answer in this section.

We would like to know how your health has been in general, over the past few weeks.

Please answer the following questions by **tick one box per row** that best applies to you. Have you recently....

	much less than usual	same as usual	more than usual	much more than usual
1. Been able to concentrate on whatever you are doing?	☐	☐	☐	☐
2. Lost much sleep over worry?	☐	☐	☐	☐
3. Felt that you were playing a useful part in things?	☐	☐	☐	☐
4. Felt capable of making decisions about things?	☐	☐	☐	☐
5. Felt constantly under strain?	☐	☐	☐	☐
6. Felt that you couldn't overcome your difficulties?	☐	☐	☐	☐
7. Been able to enjoy your normal day-to-day activities?	☐	☐	☐	☐
8. Been able to face up to your problems?	☐	☐	☐	☐
9. Been feeling unhappy and depressed?	☐	☐	☐	☐
10. Been losing self-confidence in yourself?	☐	☐	☐	☐
11. Been thinking of yourself as a worthless person?	☐	☐	☐	☐
12. Been feeling reasonably happy, all things considered?	☐	☐	☐	☐

SECTION 4: ORGANISATIONAL COMMITMENT

There are 15 items to answer in this section.

Listed below are a series of statements that represent possible feelings that individuals might have about the company or organisation for which they work.

With respect to your own feelings about the particular organisation for which you are now working (company name), please indicate the degree of your agreement or disagreement with each statement by checking one of the seven alternatives below each statement. **Please tick one box per row**

	strongly disagree	moderately disagree	slightly disagree	neither disagree nor agree	slightly agree	Moderately agree	strongly agree
1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organisation be successful	☐	☐	☐	☐	☐	☐	☐
2. I talk up this organisation to my friends as a great organization to work for	☐	☐	☐	☐	☐	☐	☐
3. I feel very little loyalty to this organisation	☐	☐	☐	☐	☐	☐	☐
4. I would accept almost any types of job assignment in order to keep working for this organisation	☐	☐	☐	☐	☐	☐	☐
5. I find that my values and the organisation's values are very similar	☐	☐	☐	☐	☐	☐	☐
6. I am proud to tell others that I am part of this organisation	☐	☐	☐	☐	☐	☐	☐
7. I could just as well be working for a different organisation as long as the type of work was similar	☐	☐	☐	☐	☐	☐	☐
8. This organisation really inspires the very best in me in the way of job performance	☐	☐	☐	☐	☐	☐	☐
9. It would take very little change in my present circumstance to cause me to leave this organisation	☐	☐	☐	☐	☐	☐	☐
10. I am extremely glad that I chose this organisation to work for over others I was considering at the time I joined	☐	☐	☐	☐	☐	☐	☐
11. There's not too much to be gained by sticking with this organisation indefinitely	☐	☐	☐	☐	☐	☐	☐
12. Often, I find it difficult to agree with this organisation's policies on important matters relating to its employees	☐	☐	☐	☐	☐	☐	☐

13. I really care about the fate of this organisation	☐	☐	☐	☐	☐	☐	☐
14. For me, this is the best of all possible organisations for which to work	☐	☐	☐	☐	☐	☐	☐
15. Deciding to work for this organisation was a definite mistake on my part	☐	☐	☐	☐	☐	☐	☐

SECTION 5: JOB SATISFACTION

There are 22 items to answer in this section.

We would like to know how you feel about your job.

Please tick one box per row

	Very much satisfaction	Much satisfaction	Some satisfaction	Some dissatisfaction	Much dissatisfaction	Very much dissatisfaction
1. Communication and they way information flows around your organisation	☐	☐	☐	☐	☐	☐
2. The relationships you have with other people at work	☐	☐	☐	☐	☐	☐
3. The feeling you have bout the way you and your efforts are valued	☐	☐	☐	☐	☐	☐
4. The actual job itself	☐	☐	☐	☐	☐	☐
5. The degree to which you feel "motivated" by your job	☐	☐	☐	☐	☐	☐
6. Current career opportunities	☐	☐	☐	☐	☐	☐
7. The level of job security in your present job	☐	☐	☐	☐	☐	☐
8. The extent to which you may indentify with the public image or goals of your organisation	☐	☐	☐	☐	☐	☐
9. The style of supervision that your superiors use	☐	☐	☐	☐	☐	☐
10. The way changes and innovations are implemented	☐	☐	☐	☐	☐	☐
11. The kind of work or tasks that you are required to perform	☐	☐	☐	☐	☐	☐
12. The degree to which you feel that you can personally develop or grow in your job	☐	☐	☐	☐	☐	☐
13. The way in which conflicts are resolved in your company	☐	☐	☐	☐	☐	☐
14. The scope your job provides to help you achieve your aspirations and ambitions	☐	☐	☐	☐	☐	☐
15. The amount of participation which you are given in important decision making	☐	☐	☐	☐	☐	☐
16. The degree to which your job taps the range of skills which you feel you possess	☐	☐	☐	☐	☐	☐

17. The amount of flexibility and freedom you feel you have in your job	☐	☐	☐	☐	☐	☐
18. The psychological "feel" or climate that dominates your organisation	☐	☐	☐	☐	☐	☐
19. Your level of salary relative to your experience	☐	☐	☐	☐	☐	☐
20. The design or shape of your organisation's structure	☐	☐	☐	☐	☐	☐
21. The amount of work you are given to do, whether too much or too little	☐	☐	☐	☐	☐	☐
22. The degree to which you feel extended in your job	☐	☐	☐	☐	☐	☐

Appendix E

Ethics Committee Approvals

Institute of Work, Health & Organisations
http://www.i-who.org

The University of Nottingham

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William Lee Buildings 8
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Director
Professor Tom Cox CBE AcSS FBPsS
Hon FFOM (Dublin) Hon FErgS FRSH FRSA

18/07/2011

Ping-Yi Lin

Dear Ping

I-WHO Ethics Committee Review

Thank you for submitting your proposal on "Nursing leadership style in different types of hospital in Taiwan and health outcome of nurses". This proposal has now been reviewed by I-WHO's Ethics Committee to the extent that it is described in your submission.

I am happy to tell you that the Committee has found no problems with your proposal and is able to give approval.

If there are any significant changes or developments in the methods, treatment of data or debriefing of participants, then you are obliged to seek further ethical approval for these changes.

We would remind all researchers of their ethical responsibilities to research participants. The Codes of Practice setting out these responsibilities have been published by the British Psychological Society. If you have any concerns whatsoever during the conduct of your research then you should consult those Codes of Practice and contact the Ethics Committee.

You should also take note of issues relating to safety. Some information can be found in the Safety Office pages of the University web site. Particularly relevant may be:

Sections 6.9, 6.10, 6.11, 6.14 of the *Safety Handbook*, which deal with working away from the University.
http://www.nottingham.ac.uk/safety/
Safety circulars:
Fieldwork P5/99A on http://www.nottingham.ac.uk/safety/publications/circulars/fieldwk.html
Overseas travel/work P4/97A on http://www.nottingham.ac.uk/safety/publications/circulars/overseas.html
Risk assessment on http://www.nottingham.ac.uk/safety/publications/circulars/risk-assessment.html

Responsibility for compliance with the University Data Protection Policy and Guidance lies with all researchers.

Ethics Committee approval does not alter, replace or remove those responsibilities, nor does it certify that they have been met.

We would remind all researchers of their responsibilities:

- to provide feedback to participants and participant organisations whenever appropriate, and
- to publish research for which ethical approval is given in appropriate academic and professional journals.

Sincerely

Dr Nigel Hunt BSc (Hons) PhD CPsychol AFBPsS
Associate Professor
Chair, I-WHO Ethics Committee

A World Health Organization Collaborating Centre in Occupational Health
Member of the European Agency for Safety and Health at Work Topic Centre GPSP

I-WHO Institute of Work, Health & Organisations

Appendix F

Institutional Review Broad Approval

彰化基督教醫院
CHANGHUA CHRISTIAN HOSPITAL
第 三 人體試驗委員會
Institutional Review Board Committee C

135 Nan-Hsiao Street, Changhua 500, TAIWAN
Tel :886-4-723-8595 ext.4077
E-mail:d9065@cch.org.tw
財團法人彰化基督教醫院

500 彰化市南校街 135 號
聯絡人：施桂雲
電話：(04)723-8595 轉 4077
E-mail: d9065@cch.org.tw

同意臨床試驗證明書

查計畫主持人：林屏沂 / 協同主持人：邱淑慧 主持「不同屬性醫院之護理領導風格對護理人員心理健康的影響」新案 (IRB 編號：080923), 經本會審查通過，特此證明。有效期限至西元 2009 年 10 月 17 日，且應接受本會之監督，同意臨床試驗證明書編號：CCH：080923

後續定期追蹤之程序及要求：

1. **期中報告： 應於西元 2009 年 08 月 17 日前繳交期中報告。核准有效期限屆滿，若尚未通過期中報告追蹤審查，不得繼續試驗。**
2. **結案報告：試驗完成後，應將執行情形及結果以書面報告本會核備。**

人體試驗委員會
主任委員
劉青山

西 元 2008 年 10 月 18 日

Protocol Title：Nursing leadership style in different types of hospitals in Taiwan and mental health outcome of nurses
Protocol No：080923
Protocol Version Date：2 Oct 07, 2008
Informed Consent Version Date：2 Oct 07, 2008
Principle Investigator(s)：Ping-Yi Lin
Co_Investigator(s)：Shu-Hui Chiu
CCH：080923
The Institutional Review Board of the Changhua Christian Hospital has reviewed the above documents and approved the study on Oct 18, 2008. This approval is valid till Oct 17, 2009. The Institutional Review Board of the Changhua Christian Hospital reserves the right to monitor the study.

Sincerely Yours
Chin-San Liu, M.D.
Chairman
Institutional Review Board,
Changhua Christian Hospital, Taiwan

本會組織與執行皆符合 ICH-GCP
The Institutional Review Board performs its functions according to written Operating procedures and complies with GCP and with the applicable regulatory requirements.