OCCUPATIONAL STRESS AND HARDINESS AMONG NURSES WORKING IN A PRIVATE HOSPITAL IN WEST-CENTRAL BANGKOK

TAWEESUP JINDARAT

A Thesis Submitted in Partial Fulfillment
of the Requirements for the Degree of

MASTER OF SCIENCE IN COUNSELING PSYCHOLOGY

Graduate School of Psychology
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The study aimed to fill the knowledge gap about the nature and degree of occupational stress and hardiness among nurses working in a private hospital in west central Bangkok as well as relationship between occupational stress and hardiness

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The study aimed to fill the knowledge gap about the nature and degree of occupational stress and hardiness among nurses working in a private hospital in west central Bangkok. This study would contribute additional knowledge about the relationship between occupational stress and hardiness.

The populations of this study are 161 nurses. The self-administrated research instrument of the study consisted of three survey questionnaires: (a) Demographic Question, (b) Nursing Stress Scale (NSS), and (c) Hardiness Scale (HS). The following section presents a detailed description of the three questionnaires. Descriptive statistics, one-way ANOVA test with post-hoc analysis or Kruskal-Wallis test.

The major findings were as follow:

1. There are significant differences in nursing stress in the sub-factor of conflict with other nurses between levels of age. There are significant differences in nursing stress in the sub-factors of death and dying, conflict with physicians, lack of support, conflict with other nurses, workload, and uncertainly concerning treatment between levels of education. There are significant differences in nursing stress in the sub-factors of death and dying, conflict with physicians, lack of support, conflict with other nurses, workload and uncertainty concerning treatment between categories of job position.

2. There are significant differences in hardiness in the sub-factors of commitment and control between levels of age. The older age group reported a higher level of commitment and control. There are significant differences in hardiness in the sub-factors of commitment and control between levels of education. The group with master's degree reported higher level of commitment and control. There are significant differences in hardiness in sub-factors of commitment and control between categories of job position. There are significant differences in hardiness in sub-factors of commitment and control between levels of length of nursing experience.

3. There is no significant relationship between nursing stress and hardiness.

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T. J.

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CHAPTER I

The Problem and Its Background

Introduction

Over the past two decades, there has been a growing belief that the experience of stress at work has undesirable effects, both on the health and safety of workers and on the health and effectiveness of their organizations. This belief has been reflected not only in public and media interest, but have also been voiced by scientific and professional organizations, including the International Labour Office (ILO Report, 1986).

Particular concern has been expressed for the effects of stress on healthcare professionals and, in particular, on nurses. In the first issue of the international quarterly *Work and Stress*, Dewe (1987) wrote that, "If you wanted to create the optimum environment for the manufacture of stress, many of the factors you would include would be clearly recognized by nursing staff as events which they encounter in their daily routine. These include an enclosed atmosphere, time pressure, excessive noise or under quiet, swing from intense to mundane tasks, no second chance, unpleasant sights and sounds, and standing for long hours." He concluded that nursing is, by its very nature, a "stressful" profession.

In a similar vein, Hingley (1984) observed that, "Everyday, the nurse confronts stark suffering, grief, and death as few other people do. Many nursing tasks are mundane and unrewarding. Many are, by normal standards, distasteful and disgusting. Others are often degrading; some are simply frightening."

It is hardly surprising that nurses, confronted by such events and tasks, have been reported to experience high levels of stress, and their difficulties appear to be further

exacerbated by a range of organizational issues increasingly recognized as being instrumental in the stress process.

Organization change, work design, cost containment, and down sizing have become recent consequences of the economic crises in Thailand in 1997-1998. As a result, hospitals and nurses or caregivers are restructuring work environment to provide the right blend of high quality patient care. In an effort to control costs and improve the quality of health care, staffing budgets were cut for the health care professions, including nursing. Some registered nurses were also replaced by personnel with less training to provide care to patients. These situations appear to be a global concern, not just a problem in Thailand (Brooten & Naylor, 1995; Spetz, 1998, Wibulpolprasert, Tangcharoensathein, & Lertiendumrong, 1998).

In December 1997, the devaluation of the Baht (Thai currency) from 25 Baht to 57 Baht per US dollar and the increase in value added tax (VAT) from 7% to 10% in 1998 affected the price of all commodities and services, including health care. During the 1998 fiscal year (October to September) the control government budget was revised and reduced three times. Operating revenue for public hospitals in Thailand, on average, was about 60% and was obtained from tax revenue (the government's allocation) and 40% from non-tax revenue sources (Health Care Research Project: Finance, 2000). Since nurses represent the majority of healthcare provider, the tendency was to cut the budget for nursing staff and this caused occupational stress in nurses (Wibulpolprasert, Tangcharoensathein, & Lertiendumrong, 1998).

In a similar vein, Manheim, Feinglass, Shortell, and Hughes (1992) stated that Registered Nurses (RN) hours were found to be a significant negative predictor of hardiness rates. It was also indicated that hospitals that had cut nurses staff by 7.5% or more had caused occupational stress.

The nature of nursing work requires a nurse to be deeply involved in the field of human behavior. Sympathy, understanding, compassion, competence, and personal involvement in the lives and deaths of other human beings are key elements in the caring and professional nursing role (Bailey, 1980, as cited in Xiame, 1996).

Many researchers identified that nursing is a high-stress area considering their heavy work demand; patient' suffering from death, frightening tasks, and disturbing relationship with patients and co-workers (McGrath, Ried & Boore, 1989; Menzies, 1982; Descamp & Thomas, 1993).

This researcher postulate that the degree of stress that nurses experience when working with general types of patients may be qualitatively and quantitatively different from the stress nurses experience when dealing with death and dying, conflict with physicians, inadequate preparation to deal with the emotional needs of patients and their families, lack of staff support, conflict with other nurses and supervisor, workload, and uncertainty concerning treatment problems. Nurses need to be hardy or strong-willed to be able to cope with occupational stress.

This researcher, who is presently completing her graduate studies in Counseling Psychology while working full time as a registered nurse (RN) in Bangkok, hopes to put her nursing and counseling skills to good use with colleagues and other healthcare providers who maybe suffering from stress problems. While there have been some studies on the occupational stress of nurses in Bangkok, there is, on the other hand, a dearth of information on the psychological construct of hardiness or dispositional resilience with respect to the nursing professional in Thai setting. This researcher, therefore, found it necessary to conduct an exploratory study that examined the occupational stress and hardiness of nurses working in a private hospital.

Research Objectives

The general purpose of this research was to examine the factors of occupational stress and hardiness among nurses working in Bangkok private hospital. More specifically, the research objectives of the study were as follows: (a) to examine the nature and degree of occupational stress of nurses, (b) to examine hardiness in nurses, and (c) to determine if there is an association between occupational stress and hardiness among the nurses.

Statement of the Problem

In line with the objectives of this current research investigation, the researcher attempted to provide answers to the following specific research questions: (a) Are there significant differences in the occupational stress of nurses working in private hospital in Bangkok, in relation to their age, marital status, educational level, job position, and length of nursing experience? (b) Are there significant differences in the same nurses' hardiness as a function of the same demographic characteristics? and (c) Is there a relationship between occupational stress and hardiness among these nurses?.

In order to answer the given research question, it was in practice on the researcher to find the most appropriate research instrument to resource occupational stress of nurses and their hardiness. In this connection, additional question were posed: What are the sub-factors (or subscales) of nursing stress? What are the sub-factors of hardiness?

Research Hypotheses

In the light of the study's objectives, problem statements; and the main variable sub-factor based on the research instrument used in the study, the following hypotheses were generated:

H1: There are significant differences in nursing stress it terms of its seven sub-factors between levels of age.

H2: There are significant differences in nursing stress it terms of its seven sub-factors between categories of marital status.

H3: There are significant differences in nursing stress it terms of its seven sub-factors between levels of education.

H4: There are significant differences in nursing stress it terms of its seven sub-factors between categories of job position.

H5: There are significant differences in nursing stress it terms of its seven sub-factors between levels of length of nursing experience.

H6: There are significant differences in hardiness it terms of its three sub-factors between levels of age.

H7: There are significant differences in hardiness it terms of its three sub-factors between categories of marital status.

H8: There are significant differences in hardiness it terms of its three sub-factors between levels of education.

H9: There are significant differences in hardiness it terms of its three sub-factors between categories of job position.

H10: There are significant differences in hardiness it terms of its three sub-factors between levels of length of nursing experience.

H11: There is a significant relationship between nursing stress and hardiness.

Significance of the Study

The study aimed to fill the knowledge gap about the nature and degree of occupational stress and hardiness among nurses working in a private hospital. This study would contribute additional knowledge about the relationship between occupational stress and hardiness among the said nurses; this new knowledge would also serve as a valuable reference resource for certain individuals and groups who are primarily concerned with the general welfare of nurses and after healthcare practitioner. Through its literature and findings, this study would benefit the following entities accordingly:

1. The nurses themselves at private hospital in Bangkok who participated as the main subjects of this study: the findings showed the degree of their stress and hardiness levels. This information showed raise their awareness of the need to cope adequately with day-to-day stress as well as place importance on the capacity to develop and maintain good levels of hardiness especially when confronted with difficult patients.

2. The administrators of private hospital in Bangkok and other hospital administrator in Bangkok: the findings of this study would give them a descriptive study of the stress as well as hardiness levels of their nurses which can serve as basis for the development of training interventions that would help relieve their nurses of occupational stress as well as help them develop greater hardiness at work. It is anticipated that the study, if seriously considered by the hospital administrators, will increase the motivation and commitment of nurses despite their difficult work circumstances.

3. Academic institutions and training centers responsible for the formal education of nurses: the findings of this study can be used as background information and data base in the development and enhancement of the nursing curriculum. The program designers and curriculum developers will see the necessity of infusing into the existing

nursing curriculum more theoretical perspectives and applications about how to deal with work-related stress and the role played by hardiness in coping with occupational stress.

Moreover, this study would be very useful for other behavioral researchers, both students and professionals, who might be interested in other related topics such as occupational stress and hardiness among medical doctors, psychiatrists, counseling psychologists, or other practitioners in the field of human and health science or any other discipline or work setting.

Scope and Limitations of the Study

This study focused mainly on the occupational stress and hardiness of nurses in a private hospital and not on any other dimension beyond the scope of this study. The researcher identified five demographic variables or personal characteristics of the respondents which were statistically treated to find out more about the overall profile of the nurses as well as their role in the nurses' occupational stress and hardiness levels. These variables were: age, marital status, educational level, job position, and length of nursing experience. Other probable demographic variable such as family income, number of children, health conditions, etc were not considered in this study.

In view of the given scope of the current research investigation, it is reasonable to say that the results of this study applied only to the target participants in one hospital in Bangkok. Therefore, the results cannot be generalized to all nurses in Bangkok and elsewhere in Thailand. Moreover, the findings were based only the research instrument used in the study. The researcher also acknowledges that one private hospital was singled out in this study; therefore the result does not reflect the perception of nurses in public and other hospital in Bangkok. Also, because the researcher utilized a descriptive and cross-sectional research method, the results provided descriptive data at one fixed point in time.

Nevertheless, in spite of these limitations, the study is anticipated to be a valuable source of information for other researchers, nursing professionals, nursing school administrators, and hospital administrators and other vital decision makes and policy makers who are in a vantage position of responsibility to oversee and faster good mental and physical health among nursing practitioners.

Definitions of Terms

Several key terms referred to throughout the study are described below in their operational sense.

Hardiness.

Hardiness is a mediating variable in occupational stress. Kobasa et al. (1982) believed that these attitudes of challenge, commitment and control have a profound effect on health and ability to overcome stressful events in one's life." (as cited in Keane, Ducette, & Adler, 1985). The hardiness construct was introduced by Kobasa and Maddi (Kobasa, 1979; Maddi & Kobasa, 1981, 1984) as a way of conceptualizing interrelated self-perceptions of commitment, control, and challenge (CCC) that help in managing stressful circumstances in a manner that turns them into developmental rather debilitating experiences.

Nurse.

A nurse is a health care professional, who is engaged in the practice of nursing. Nurses are men and women who are responsible (with others) for the safety and recovery of acutely ill or injured people, health maintenance of the healthy, and treatment of life-threatening emergencies in a wide range of health care settings (Wikipedia, 2006).

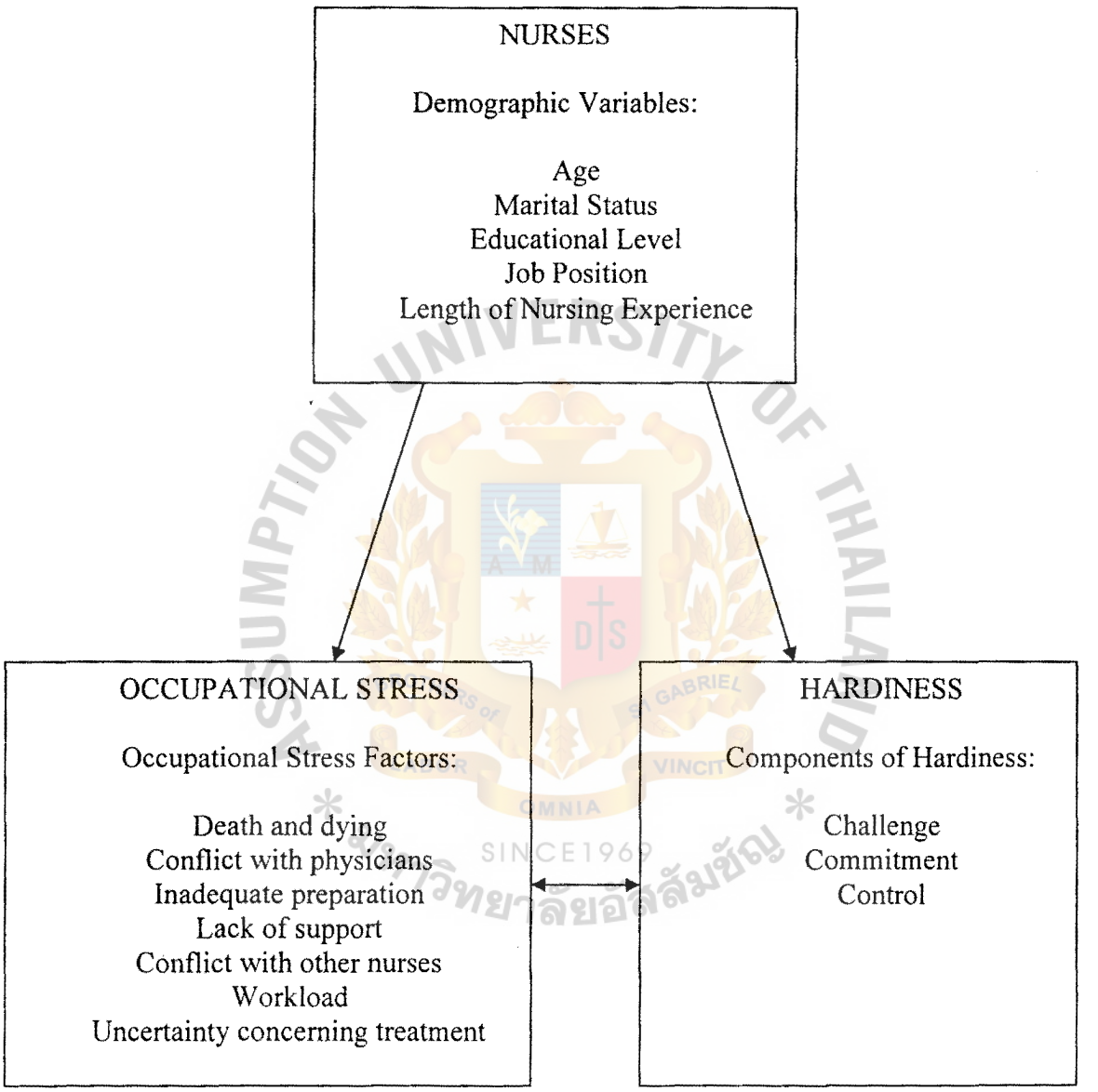
Occupational Stress.

According to the instrument designers of the Nursing Stress Scale that was used in this study, nurses' occupational stress refers to the following stress-inducing situations encountered by nurses in their profession (Gray-Toft & Anderson, 1981): dealing with death and dying, conflict with physicians, inadequate preparation to deal with the emotional needs of patients and their families, lack of staff support, conflict with other nurses and supervisor, workload, and uncertainty concerning treatment

Private Hospital.

Private Hospital a hospital not directly funded by either State or Federal Governments in which only private patients are treated (Federation Health, 2006).

Conceptual Framework



The current study explored the dynamics of occupational stress and hardiness among nurses in Bangkok. More specifically, the study examined the occupational stress as well as hardiness of these nurses as a function of five identified demographic variables: age, marital status, educational level, job position, and length of nursing experience. Ultimately, the study attempted to find out if there is a statistically significant relationship between occupational stress and hardiness among the nurses.

CHAPTER II

Review of Related Literature

This study was supported by information, models, theories, and related studies conducted in Thailand and in other countries. The review of related literature is presented in the following order: (a) Occupational Stress and Theoretical Presented, (b) Hardiness and Theoretical Perspectives, (c) Health Care and Nursing Professional in Thailand, (d) Related Foreign Studies, and (e) Related Local Studies.

Occupational Stress and Theoretical Perspectives

Stress and the general Adaptation Syndrome: Hans Selye coined the term stress as a nonspecific response of the body to any demand, producing the general adaptation syndrome (GAS) (Fox, 1993). There are three stages to the GAS response: "1) the alarm reaction, when the adrenal glands are activated; 2) the stage of resistance, in which readjustment occurs; and 3) if the readjustment is not complete, the stage of exhaustion may follow, leading to sickness and possible death" (Fox, 1993, p.272). During Stage one, norepinephrine and epinephrine are released, which causes vasoconstriction (i.e., tightening of the arteries) and an increase in blood pressure and pulse. Hormone levels also rise. Psychosocial changes are also occurring, such as increased levels in alertness, anxiety, and task-and defense-oriented behaviors (McFarland & Thomas, 1991). Stage Two is when a person adapts optimally to the stress within his or her individual capacities. This is indicative of the readjustment of hormone levels and reduction in activity. During this time, a person increases his or her use of coping devices and may have an affinity to rely on defense-oriented behavior (McFarland & Thomas, 1991). The last stage of the stress response occurs when a person loses the "ability to resist stress because of depletion

of body resources" (McFarland & Thomas, 1991, p. 745). He or she may have decreased immune system and perhaps even experience weight loss. Prolonged exposure to the stressor may even lead to death. Psychological changes reflect the physical changes just mentioned. An individual who has reached this level of response may experience disorganized thinking, personality adjustment, hallucinations and delusions, as well as exhibit violent tendencies (McFarland & Thomas, 1991). Seyle estimated that the inability to adjust successfully to life situations and stress is at "the very root of the disease producing three is not a desirable level to reach when dealing with stressors. The general adaptation syndrome reflects Selye's belief that an "ever increasing proportion of people die from the so-called wear and tear diseases, diseases of civilization, or degeneration diseases, which are primarily stress" (Wiley, 2000).

Views About Occupational Stress

Selye (1976) defined stress as the rate of wear and tear on the body. A stressor can be physical, chemical, developmental, or emotional. Stress can be objectively measured by the structural and chemical changes that stress produces in the body. A general response to stress is manifested in diseases, such as hypertension, peptic ulcer, and autoimmune illnesses.

Lazarus and Folkman (1984) interpreted stress as a particular relationship between the person and the environment that is appraised by the person as exceeding his/her personal and social resources and endangering his/her well-being. Stress experience and coping results bring along immediate effects, such as affects or physiological changes and long-term results concerning psychological well-being, somatic health, and social functioning.

The National Institute of Occupational Safety and Health in the United States (as cited in Stephen, 2003) defined occupational stress as the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources, and needs of the worker.

European Agency for Safety and Health at work (2000) described stress as the harmful emotional and physical reactions resulting from the interactions between the worker and her/his work environment where the demands of the job exceed the worker's capabilities and resources.

According to the Health and Safety Executive (2001), based in the United Kingdom, stress is the adverse reaction people have to excessive pressures or other types of demand placed on them.

The experience of stress represents a psychological state. It can result from exposure, or threat of exposure, both to the more tangible work place hazards and to psychosocial hazards of work: The experience of stress is one important outcome of exposure to the hazards of work and to hazardous situations. Those hazards of work which are associated with the experience of stress are often termed stressors.

Applied directly to nursing, contemporary theories of stress suggest that a situation which is typically experienced as stressful is perceived to involve: (a) work demands which are threatening or which are not well matched to the knowledge, skills and ability to cope of the nurses involved, (b) work which does not fulfill their needs, especially where those nurses have little control over work, and (c) receive little support at work outside of work (Cox, 1978).

Most studies on nurses have focused on those employed in hospitals or close related health-care organizations. Of the earlier studies, it is those of Gray-Toft and Anderson (1981) which have repeated by attracted attention. These authors identified seven major sources of stress:

1. Dealing with death and dying
2. Conflict with physicians
3. Inadequate preparation to deal with the emotional needs of patients and their families
4. Lack of staff support
5. Conflict with other nurses and supervisor
6. Workload
7. Uncertainty concerning treatment

Burnout.

Burnout is emotional exhaustion or *'compassion fatigue'* (Hart, 1984). The most conscientious people-helpers are most vulnerable. Researchers like Maslach, Freudenberger, and others from 1977 onwards gave the name *'burn-out'* to the special stressors associated with social and interpersonal pressures.

Dr. Arch Hart says burnout symptoms may include demoralization (belief you are not longer effective); depersonalization (treating yourself and others in an impersonal way); detachment (withdrawing from responsibilities); distancing (avoidance of social and interpersonal contacts); and defeatism (a feeling of being 'beaten') (as cited in Maslach, 2003).

Christina Maslach, described burnout as a state of physical, emotional, and mental exhaustion marked by physical depletion and chronic fatigue, feelings of helplessness, and hopelessness, and by development of a negative self-concept and negative attitudes towards work, life and other people. She offered the following signs:

1. Decreased energy -*'keeping up the speed'* becomes increasingly difficult
2. Feeling of failure in vocation
3. Reduced sense of reward in return for pouring so much of self into the job or project
4. Sense of helplessness and inability to see a way out of problems
5. Cynicism and negativism about self, others, work, and the world generally.

Personality and attitudinal factors may increase the propensity to burnout: e.g.: the pressure to succeed; an authoritarian personality which may come across insensitively (or a too-sensitive person who can feel with others' hurts but who is vulnerable to criticism); inner-directed rage; under assertiveness -- feeling victimized; carrying too much guilt about humanness (an occupational hazard for some people such as the clergy, so they develop facades for various occasions); inflexibility; and many more.

The essence of the problem, however, is the clash between expectations and reality. Some groups are often put on a pedestal by others, and by themselves. Many of these expectations just can't be met. We try to please, but may either become too goal-oriented or else too accommodating to their 'slackness'. Strongly goal-oriented ministers will almost inevitably experience more frustration than process-oriented ones (Hart, as cited in Maslach, 2003).

And so if we are not careful, depending on our personality type, we may become perfectionist, over-conscientious, develop one side of our vocation disproportionately, or maybe identify so closely with our mission that if it falls apart, we do too.

People-helpers have another hazard: in our counseling we are exposed almost exclusively to the negative sides of people's lives. So the leader ought to spend as much time with the strong as with the weak - for his own sake (they give him strength and support), for the leaders' sakes (they can be trained) (Maslach, 2003).

Hardiness and Theoretical Perspectives

Hardiness and it components: Hardiness is a derivative from the word 'hardy', which is described as "capable of surviving difficult conditions," (Pocket Oxford English Dictionary, 2003). Being hardy or having a hardy personality is of great advantage to people in the difficult times that we are living in today. This personality construct helps in survival and ability to work through the tough situations that people may face in their everyday lives. There have been many researchers studying this construct and they have come up with many results that help support the reason for having a hardy personality.

Views About Hardiness

In the late 1970s, psychologist Suzanne Kobasa, Ph.D. (Kobasa, 1979), did a long term research study on the impact of stress on top AT & T executives when it was breaking up. The employees were either losing their jobs or being reassigned. Over a period of eight years, she found that there were two different patterns in the way these executives responded to the stress:

1. People in one group became increasingly symptomatic. They had more medical and psychological problems and symptoms and more doctor visits.

2. In contrast, the second group showed no difference in symptoms during this stressful period as compared to before its' onset. Surprisingly, they seemed healthier and more robust. They essentially rose to meet the challenge.

Dr. Kobasa referred to this second group as having a stress-hardy personality. Maddi and Kobasa (1994) attempted to study the relation between hardiness and mental health. It was found that hardiness is a general measure of mental health and is not an "artifact" of negative affectivity.

According to Maddi (1999), hardiness had emerged as a personality disposition that enhanced performance, conduct, morale, stamina, and health. Maddi studied the validity of hardiness theorizing and assessment by determining the role of hardiness in moment-to-moment experiencing, coping, and strain reactions. The results of the first study showed that the higher the hardiness level, the greater the tendency with regard to one's activities, commitment, control, and challenge (the three constructs of hardiness). The second study showed tendency for work stressors to elicit hardier coping as intensified by hardiness level, and also found that regressive coping, or avoidance, is unrelated to event context but negatively related to hardiness. The third study showed that hardiness is negatively related to self-report and objective measures of organismic strain.

Maddi (1999) began his work with hardiness in 1981 with a company that downsized its 26,000 employees to half that number. Of the employees who remained on the job, some thrived while others developed significant physical and emotional health problems. According to Maddi the people who did the best demonstrated the three key features of psychological hardiness. Known as the 3 C's of hardiness, they are challenge, control, and commitment. These key characteristics of successful coping have been evaluated in a variety of demanding settings ranging from businesses to battlefields and from schools to medical clinics. They have proven useful in explaining what helps people to flourish through hard times.

Johnston (2001) offered the following description of the three C's of hardiness:

Challenge.

Challenge is the first C of hardiness. How we view a problem is important. Psychologically hardy individuals see problems as challenges rather than threats. This difference is important because when faced with a threat, there is a tendency to try and avoid it. Hardy people see problems as challenges and rather than being overwhelmed and seeking to retreat, they get busy looking for solutions. Seeing a problem as a challenge mobilizes our resources to deal with it and encourages us to pursue the possibilities of a successful outcome.

Control.

The second C of hardiness is control. In a tough situation hardy individuals do not become overwhelmed or helpless. Instead, they strive to gain control of what they can by going into action. While acknowledging it is true that many aspects of a crisis situation cannot be controlled, they also understand that by intentionally developing and holding onto a positive, optimistic, hopeful outlook, we can always determine our reaction to any predicament we face. We can choose our best attitude, and the better we are at doing this, the greater our sense of being in charge of our circumstances.

Commitment.

Commitment is the third C of hardiness. It refers to persevering or sticking it out through a hard time. Being committed to an outcome keeps us going even in the midst of setbacks, obstacles, and discouraging news. Being committed to a goal helps us overcome occasional losses of motivation and remain steadfast in our efforts.

If we engage in the daily practice of hardiness, we may be surprised to find ourselves not only surviving but also thriving on adversity. Thriving refers to an ability to

benefit and grow from a difficult experience so that we are able to function stronger, better, and more joyfully than we did prior to facing hardship. When tough times come your way, don't strive to just be a survivor. Learn to thrive with the 3 C's. Look for a challenge, take control of what you can, and demonstrate your commitment in daily efforts to reach your goal participants, this did not relate to academic achievement.

Stress hardiness is a concept proposed by Suzanne Kobasa in which she describes three characteristics of what she called the "hardy personality." Individuals who possess these characteristics are less likely to experience stress and more likely to respond effectively to problematic situations than those who lack these traits. I referred to these characteristics as a mindset that determines the ways in which we perceive and approach life's events; since the first letter of each of the components of the mindset begins with the letter C; I termed this mindset the "3 C's." The first focused on "commitment" or a feeling of purpose and meaning for one's life rather than a sense of alienation. Individuals are less stressed when their actions are guided by and in concert with their values and they feel a passion for what they do. A sense of purpose is an antidote to feelings of anxiety and despair.

Pollock (1984) developed the concept of health-related hardiness while studying the adaptation response of individuals to chronic illnesses such as diabetes mellitus, hypertension, and rheumatoid arthritis. Health-related hardiness is a personality resource comprising of (a) the commitment dimension, which represents the appraisal and coping strategies an individual used in adaptation to chronic illness; (b) the control dimension, which represents the use of ego resources necessary to appraise, interpret, and respond to health stressors; and (c) the challenge domain, which represents the reappraisal of the health stressors as potentially beneficial or rewarding rather than threatening or harmful (Pollock, 1986).

Hardiness training

The acquired physiological patterns and their concomitant emotional states from planned stress and recovery are crucial components in the foundation for hardiness. Additional components for hardiness are learned cognitive, behavioral, and interpersonal skills, that enhance facing stress as a challenge, an opportunity to grow. (Michael H. 2001).

In another study, Maddi and Hightower (1999) reported a study to focus on the difference between hardiness and optimism in their relationship to transformational coping (e.g. problem solving) and regressive coping (e.g. disengagement). It was found that hardiness related more to coping efforts than did optimism. Also, both hardiness and optimism related positively to signs of transformational coping, but only hardiness was negatively related to signs of regressive coping. Results also point out that optimism increased to the level of hardiness in number of coping efforts used, although the pattern for optimism combined transformational coping with regressive coping. Patton and Goldenberg (1999) studied hardiness and anxiety as predictors of success in academics for first-year nursing students. Results reported that participants perceived themselves to possess high levels of hardiness and low levels of anxiety, but for some

Health Care and the Nursing Professional in Thailand

The Ministry of Public Health is the major provider of public health services. Public health services are also provided in medical school hospitals under the Ministry of University Affairs, the Ministry of Interior, the Ministry of Defense, and the Bangkok Metropolitan Administration. In many ways, health care in Bangkok matches the standards of health care in Western cities, at least for those who can afford it. In the past, the people depended on each other and used local wisdom to cure illness; however, today's public

service depends on modern medicine. However, the use of modern medical technology, especially high-tech medical equipment, is confined primarily to big cities and the private hospitals, rather than the public hospitals. Thailand now has 1,345 hospitals nationwide. In Bangkok, there are 106 private hospitals and 53 public hospitals (Medical Registration Division; Department of Health Service Support, Ministry of Public Health, 2001). The volume of patients did not decrease; on the contrary, and in many areas of the state, patient volumes have increased steadily. Correspondingly, the duties of nurses did not decrease; instead, their responsibility to patients and to their work escalated.

In 2001, the Bangkok Metropolitan Administration (2004), on nursing manpower in Thailand, reported that there were 74,438 RNs (119 RNs to 100,000 population). Most RNs are clustered in Metropolitan Bangkok and the Central Region. There is an established 21,000 RNs working in Bangkok.

Related Foreign Studies

On Stressor Factors in Nursing Work

Dewe (1983) reported a study of about 1,800 nurses in 29 hospitals in New Zealand. He reports identifying five "stressor" factors in these data: (a) work overload, (b) difficulties of patients and staff, (c) difficult involved in nursing the critically ill, (d) concern over the treatment of patients, (e) dealing with difficult or hopelessly ill patients. His results were completely consistent with earlier research, particularly those of Gray-Toft and Anderson (1981) who identified seven major sources of stress, which formed the scales of the Nursing Stress Scale (NSS).

On the Relationship between Occupation Stress and Hardiness

Hall (1992) investigated the relationship between occupational stress and personality hardiness in 145 registered nurses. Perceived occupational stress was measured by the Nursing Stress Scale (NSS); personality hardiness was measured by the Personal Views Survey. Higher hardiness scores and thus greater personality hardiness was found to be associated in nurses with lower levels of perceived occupational stress. The Pearson's Product Moment correlation was r = ά- ά 0.2779, with a 2-tailed significance at p ά < ά 0.001. Results indicated that nurses perceive similar stress independent of work area; that lower stress scores are more likely found in nurses working a 32-or 40-hour week and that Intensive Care Unit (ICU) and emergency nurses have higher personality hardiness characteristic.

Sawatzky (1993) the relationship between hardiness and the perception of stressful events in female critical care nurses. The theoretical framework for this study was based on Pollock's Adaptation Nursing Model, which proposes that the personality characteristic of hardiness buffers or mediates the stress-illness relationship directly, by the enhancement of successful coping and indirectly, through its influence on the perception of the stressor. Numerous hardiness studies have been published, however, few have focused on female critical care nurses. In addition, minimal research involving this population has examined the relationship between the perception of stressful events and this personality characteristic.

A descriptive, correlation design was employed to examine the relationship between hardiness and the perception of stressful events in female critical care nurses. Instruments which operationally defined the variables of hardiness (Personal Views Survey II), actual and perceived work stressors (Critical Care Nursing Stress Scale), and

perceived global stress (Perceived Stress Scale), as well as a demographic form, were administered to a convenience sample (N = 96) of the target population.

Data were analyzed using both parametric and nonparametric techniques. Findings of a significant relationship between the hardiness composite and perceived, but not with actual stressors lent support to the conceptual model. Correlations between perceived global stress and the negative perception of work stressors, as well as between actual and perceived stressful work events were also significant. Ranking the stressful work situations revealed that patient care related stressors ranked the highest for frequency, intensity and challenge, while management related stressors were among the highest in the threat category. Overall, lack of control appeared to be a common element among those situations ranked as the most stressful.

The findings of this study impact primarily on the domains of nursing administration and research. The empirical evidence related to hardiness and the perception of work-related stressors and personal life stress, as well as the ranked work stressors, will provide nurse managers with insight into the stressful experiences of female critical care nurses.

Gomez (1994) conducted a study in the aim to determine if hardiness serves as a mediator between work-related stress and burnout. Forty-three registered nurses working in two emergency departments completed a questionnaire comprised of the Hardiness Scale, the Maslach Burnout Inventory, and the Nursing Stress Scale. Descriptive statistics, Pearson's correlation and multiple regression techniques were used to analyze the data. Results indicated that hardiness had a significant inverse relationship with nursing stress (r = ά - ά.49, p ά \le ά.005), emergency department stress (r = ά- ά.40, p ά \le ά.01), and burnout (r = ά - ά.64, p ά \le ά .0001). Hardiness was not found to correlate with age, number of years in nursing, number of years in ED nursing, or number of hours worked

per week. Age, however, correlated negatively with both burnout and stress. Consistent with other studies, this study found hardiness to be a mediator in the stress-burnout relationship. This provided support for the conceptual framework used, whereby personality hardiness contributes to the stability of the person. Results, however, indicated that nurses still experience stress despite the mediator effect of hardiness. Furthermore, the significance of age in the stress reaction cannot be overlooked. Continued research into the clarification of the hardiness construct, its value, and its effects on personal well-being and work-performance is recommended.

Malik's (1997) study was designed to identify whether or not there is a relationship between personal hardiness and perceived stress in critical care nurses. Frederick Herzberg's (1976) two-factor theory provided the framework for this study. The Nursing Stress Scale (Gray-Toft & Anderson, 1981) and the Hardiness Scale (Kobasa, 1979) were administered to a sample of 81 critical care nurses. Surveys returned by 34 CCNS (response rate of 42%) provided statistical data. The results revealed a negative correlation between the hardiness score and the stress score which indicated an inverse association between personal hardiness and perceived stress.

Related Local Studies

A study by Pothaphu (2005) examine the differences in the degree of perception of factors affecting job-related stress and the differences in the degree of perception of perceived determinants of job satisfaction among nurses in private hospital in Metropolitan Bangkok in relation to gender, age, educational background, job position, and years of nursing work. Moreover, the study sought to examine the relationship between job stress and job satisfaction of these nurses. The research instrument consisted of three parts,

namely: demographic questionnaire, Nursing Stress Scale (NSS), and Job Satisfaction Survey (JSS).

The major results of this study in the regard to job stress included:

1. There were no significant gender differences in the perceived factors affecting job-related stress. Likewise, there were no significant job position differences in he perceived factors affecting job-related stress. And neither were there significant years of nursing work differences in the perceived factor affecting job-related stress. There was however, a significant age differences in the perceived factor of conflict with other nurses as well as a significant educational differences in the perceived factor of conflict with physicians.
2. Through the application of the Pearson *r* correlation coefficient among a total of sixteen variables, forty-seven significant negative relationships were found to exist between the given variables. There is, therefore, a significant negative relationship between job-related stress and job satisfaction among nurses working in private hospitals in Metropolitan Bangkok.

A research by Khanijuan (2004) aimed to study the differences between males and females in perfectionism and hardiness in relation to suicide ideation among Assumption University undergraduate students. There were 355 respondents in this study. The researcher used the Hardiness Scale (45-item), the Multi-Attitude Suicide Tendency Scale (30-item), and the Frost Multidimensional Perfectionism Scale (35-item).

The conclusions related to hardiness were as follow:

1. There is no significant difference between males and females in their levels of suicide ideation, and Hardiness
2. Hardiness is negatively related to both suicide ideation subscales such that the higher the hardiness the lower the suicide ideation.

3. Perfectionism and hardiness are stronger predictors of suicide ideation in female than in males.

Chapter Synopsis

All of the literatures reviewed in this chapter are highly relevant to this study because they all presented useful background information, theoretical perspectives, and significant findings directly related to the main variables of this study: occupational stress and hardiness

All the foreign and local studies cited in this chapter have, in one way or another, supported the current study either by way of similarities or differences in the main research variables, demographic variables of the subjects of the study, research instrument utilized, as well as outcomes of the study. For example, Dewe (1983) and Hall (1992) used the Nursing Stress Scale (NSS) instrument used in this study.

From the theoretical perspectives of related literature, the researcher learned about the extensive work of Gray-Toft and Anderson (1981) who designed the NSS. The seven major sources identified in the NSS can be linked to the theory of Selye (1976) which stated that a stressor can be physical, chemical, developmental, or emotional. Stress can be objectively measured by the structural and chemical changes that stress produces in the body. A general response to stress is manifested in diseases, such as hypertension, peptic ulcer, and autoimmune illnesses.This is also supported by Maslach (2003) who described burnout as a state of physical, emotional, and mental exhaustion marked by physical depletion and chronic fatigue, feelings of helplessness, and hopelessness, and by development of a negative self-concept and negative attitudes towards work, life and other people.

The present researcher acknowledges the role played by all the referees cited in the review of literature. Their valuable information served as useful guide in the discussion of the findings of this study.

CHAPTER III

Research Methodology

The goal of this study was to examine occupational stress and hardiness and relationship between nurses at a private hospital in the west central district of Bangkok. The information in this chapter is presented in four sections, as follows:

1. Research Design
2. Subjects of the Study
3. Instruments of the Study
4. Procedure of the Study
5. Statistical Treatment of Data

Research Design

This study was descriptive in nature and design because it sought to describe the existing phenomena of occupational stress and hardiness as they are without the researcher having to manipulate or influence neither the respondents nor the main variables in any way. The study is also a cross-sectional design that provided descriptive data at one fixed point in time.

Subjects of the Study

The target respondents of this study were nurses at a private hospital in the west central district of Bangkok. Through nonprobability sampling method, one particular hospital was identified as the site of the study. This hospital was chosen based on the researcher's judgment regarding the characteristics of the target population. There were, at the time of sampling, 106 private hospitals in Bangkok. These were sorted out according to number of beds. The largest groups of hospital were that with 100-149 beds (Appendix

D). Consequently, through sample random method, in the west central district of Bangkok (100-beds private hospital) was identified. There were currently 161nurses consisting of 52 registered nurses (RN), 5 head nurses, 24 specialized nurses, 5 technical nurses and 75 assistant nurses. Considering the relatively small number of total nurses in the west central district of Bangkok, all 161 (100%) were used as respondents of the study (N=161).

Instruments of the study

The self-administrated research instrument of the study consisted of three survey questionnaires: (a) Demographic Question, (b) Nursing Stress Scale, and (c) Hardiness Scale. The following section presents a detailed description of the three questionnaires.

Personal Information Questionnaire

This brief researcher-constructed questionnaire aims to gather relevant background information from the nurses who working at a private hospital in the west central district of Bangkok. The questions were aimed at deriving details of the selected demographic variables age, marital status, educational level, job position, and length of nursing experiences.

Nursing Stress Scale (NSS)

The Nursing Stress Scale (NSS) was created by Gray-Toft and Anderson in 1981 mainly because there was a lack of instrumentation that specially measured stress in nurses then. It consisted of 34 items that describe situations that have been identified as causing stress for nurses in the performance of their duties. It provides a total stress score as well as scores on each of seven subscales that measure the frequency of stress

experienced by nurses in the hospital environment. It was originally designed for nurses employed in the hospital setting.

The 34-item, self-reported instrument addressed the factors of dealing with death and dying, conflict with physicians and other nurses, inadequate preparation, lack of support, workload. The NSS has been utilized among nurses practicing in a variety of settings like surgery, oncology, hospice care, and home health care. It has been used among nurses holding varying degrees, such as Register Nurses (RNs) with two-and four-year degrees and Licensed Practical Nurses (LPNs), and even Nursing Assistant (Gray-Toft & Anderson, as cited in Perry, 2002). Gray-Toft & Anderson suggested that the Nursing Stress Scale be further utilized in other studies and "other hospital settings with other types of hospital units" that might help demonstrate the connection between stress, hardiness, and turnover. Importantly, the NSS has gained increasing recognition among nurse-researchers by being tested and retested as a theoretically valid and reliable instrument (Perry, 2002).

The seven subscales included dealing with death and dying, conflict with physicians, conflict with other nurses, inadequate preparation, lack of support, workload, and uncertainty concerning treatment. Participants were asked to indicate their responses using a 5-point Likert scale (1=never; 2=seldom; 3=yes, occasionally; 4=yes, often; and 5=yes, always).

Hardiness Scale (HS)

Hardiness Scale is a 45-item instrument designed to measure dispositional resilience, the hardiness of one's personality. Hardiness is considered to relate to how one approaches and interprets experiences.

Three components of hardiness serve as subscales of the HS:

1. Challenge, a zest and excitement for life which is perceived as opportunities for growth.
2. Control, a sense of autonomy and influence on one's future
3. Commitment, which refers to imputed meaning and purpose to self, others, and work

Hardiness has been shown to relate to how people process and cope with stressful events. In the stressful situations, hardiness has been shown to be associated with high levels of well-being (Fisher & Cocoran, 1994).

The Hardiness Scale used a 4-point Likert type response format, with scores Ranging from 0 (Not at all true) to 3 (Completely true). Higher scores indicate higher hardiness.

Reliability: The internal consistency (alpha) coefficients were .62, .66, and .82 for the challenge, control, and commitment subscales, respectively. As a total summated scale, the HS had an alpha of .85.

Validity: The 45-item HS was developed from a pool of 76 items. Scale cores correlated .93 with total scores on the 76-item version. The three-subscale structure was supported with principal components factor analysis. HS scores were predictive of mental and physical health. Score are sensitive to measuring change due to the level of stressful events (Bartone, Ursano, Wright & Ingraham, 1989).

Procedure of the Study

Before the actual data collection, the researcher prepared a letter asking for permission from the Director of private hospital in the west central district of Bangkok to conduct the study. The researcher went personally to a private hospital in the west central district of Bangkok to meet with the Head Nurse, Research Department to submit the letter

and also for exploratory talks. Meanwhile, a pilot study was conducted on a small number of nurses working in another hospital Thai version of the original English questionnaires to find out if there was any comprehension difficulty on the part of respondents with regard to the questionnaire directions and item statements.

On confirmation of acceptance of request to conduct a study at the private hospital in the west central district of Bangkok the researcher proceeded to distribute the questionnaires, according to the hospital director's suggestions on how best to administer the questionnaire.

The participants of the study were asked to complete a 79-item questionnaire which consisted of three questionnaires: the Personal Information Questionnaire (5 items), the Nursing Stress Scale (29 items), and Hardiness Scale (45 items).

Upon the return of the completed questionnaires, the researcher inspected to see if there were any invalid ones and proceeded to a total of 161 valid questionnaires.

Statistical Treatment of Data

The data that were gathered from the respondents were encoded, classified, tabulated, and interpreted by using a computer software package called Statistical Package for the Social Sciences (SPSS), Version 11.5. The statistical tests that will be used are listed as following:

One-way ANOVA test with post-hoc analysis or Kruskal-Wallis test

One-way ANOVA, a parametric test, is a test of difference in one interval/ratio-scale dependent variable between more than two independent groups of the independent variable. This test has assumptions such as population normality and homogeneity of variance. Normality can be assessed by using skewness and kurtosis values and/or

Shapiro-Wilk tests. And the homogeneity of variances can be assessed by using the Levene Statistic test.

Therefore, one-way ANOVA tests were employed to test the differences in either nursing stress or hardiness as a function of demographic variables which involved more than two independent groups if such assumptions mentioned earlier were met. After conducting these tests, if there were significant differences, post-hoc analyses will be conducted to compare the mean differences between independent groups. Kruskal-Wallis, a non-parametric test, is an alternative choice if any one-way ANOVA's assumptions have been violated. All these hypotheses will be tested at a level of significance 0.05.

Pearson Product-Moment Correlation and Spearman's rho Rank Correlation

Pearson product-moment correlation is a test of relationship between two interval/ratio-scale variables such as nursing stress and hardiness. Its assumptions consist of normality, linearity, homoscedasticity. The linearity and homoscedasticity assumptions can be tested by examining scatter-plots of the variables.

When the assumptions underlying Pearson correlation cannot be met adequately, the non-parametric alternative, Spearman's rho rank correlation test was utilized. All the hypotheses were tested at a level of significance either 0.05 or 0.01, where appropriate.

CHAPTER IV

Presentation of Findings

This chapter presents the results of the statistical treatment of data collected from the respondents of the study through the survey questionnaires. The questionnaires aimed to describe the demographic characteristic of the nurses as well as measure their occupational stress and hardiness.

The findings are presented in the following order:

1. Descriptive statistics
2. Inferential statistics

Descriptive Statistics

In this section, descriptive statistics was utilized in the form of frequency and percentage distribution of the respondents' demographic variables.

Table 1

Frequency and Percentage Distribution of the Respondents' Demographic Variable (N=161)

		Frequency	Percent
Age	25 years and below	91	56.5%
	26-35 years	57	35.4%
	36- 45 years	13	7.5%
	46 years and above	1	.6%
Marital status	Single	134	83.2%

	Married	24	14.9%
	Divorced / Separated	3	1.9%
Educational level	Under graduate	77	47.8%
	Bachelor's Degree	80	49.7%
	Master's Degree	4	2.5%
Job position	Assistant Nurse	75	46.6%
	General Nurse	52	32.3%
	Specialized Nurse	24	14.9%
	Head Nurse/Ward Nurse	5	3.1%
	Other	5	3.1%
Length of Nursing Experience	4 years and below	114	70.8%
	5-10 years	26	16.1%
	11-15 years	16	9.9%
	16-20 years	3	1.9%
	20 years and above	2	1.2%
Total		161	100.0%

Table 1 shows the demographic profile of the respondents. It can be seen from the results that over half (56.5%) of the respondents belonged to the youngest age groups of 25 years and below. In contrast, the smallest group (0.6%) of respondents was of the age range 46 years and above.

The result of marital status shows that the majority (83.2%) of the respondents of this study was single and the minority of the respondents is at (1.9%) was divorced / separated.

In terms of education level the results indicate that half (49.7%) were college graduate, closely followed by the second largest group (47.8%) of undergraduate. Only less than 3% had master's degree (2.5%)

The result of job position analysis reveals that nearly half (46.6%) of the respondents were assistant nurses, followed by the next largest group (32.3%) who were generalized nurses. The smallest groups were equally divided at (3.1%) each; there were the head nurse ward nurse and those in the "other" category.

With regard to length of nursing experience, most (70.8%) of the respondents had the shortest nursing experience, whereas conversely, the smallest group of respondent (1.2%) had the largest nursing work experience.

Inferential Statistics (Hypothesis Testing)

In descriptive statistics, it was discovered that there was a low percentage of respondents in the age level of 46 years and above (0.6%), and in the nursing experience length of 20 years and above (2 respondents). These will lead to the violation of assumptions of normality and homogeneity of variances. Thus, the age level of 46 years and above is merged into the range 36-45 years to form a new range of 36 years and above. Likewise, Then, the nursing experience length of 20 years and above is combined with 16-20 years to form a new category of 16 years and above. All of these changes were used for hypothesis testing.

Research Hypothesis 1: There are significant differences in nursing stress and its seven sub-factors between levels of age.

This hypothesis is further divided into eight sub-hypotheses as shown in the following table.

Table 2

Sub-Hypotheses of Research Hypothesis 1

No.	Hypothesis
H1.1	There is a significant difference in death and dying between levels of age.
H1.2	There is a significant difference in conflict with physicians between levels of age.
H1.3	There is a significant difference in inadequate preparation between levels of age.
H1.4	There is a significant difference in lack of support between levels of age.
H1.5	There is a significant difference in conflict with other nurses between levels of age.
H1.6	There is a significant difference in workload between levels of age.
H1.7	There is a significant difference in uncertainty concerning treatment between levels of age.
H1.8	There is a significant difference in nursing stress between levels of age.

The results of testing assumption of normality (see appendix F1) and homogeneity of variances (see appendix F11) are summarized in Table 2. From that, the appropriate statistical tests were decided accordingly. Therefore, Kruskal-Wallis tests were used for hypothesis H1.1 to H1.6 and one-way ANOVA test was used for hypothesis H1.8. The results of these tests are summarized in Table 3.

Table 3

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 1

Hypothesis	Assumption of	Assumption of	Statistical test

		Normality	Homogeneity of Variances	
H1	H1.1	Can not be assumed	N/A*	Kruskal-Wallis
	H1.2			
	H1.3			
	H1.4			
	H1.5			
	H1.6			
	H1.7			
	H1.8	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

Table 4

Test Results for Sub-Hypotheses of Research Hypothesis 1

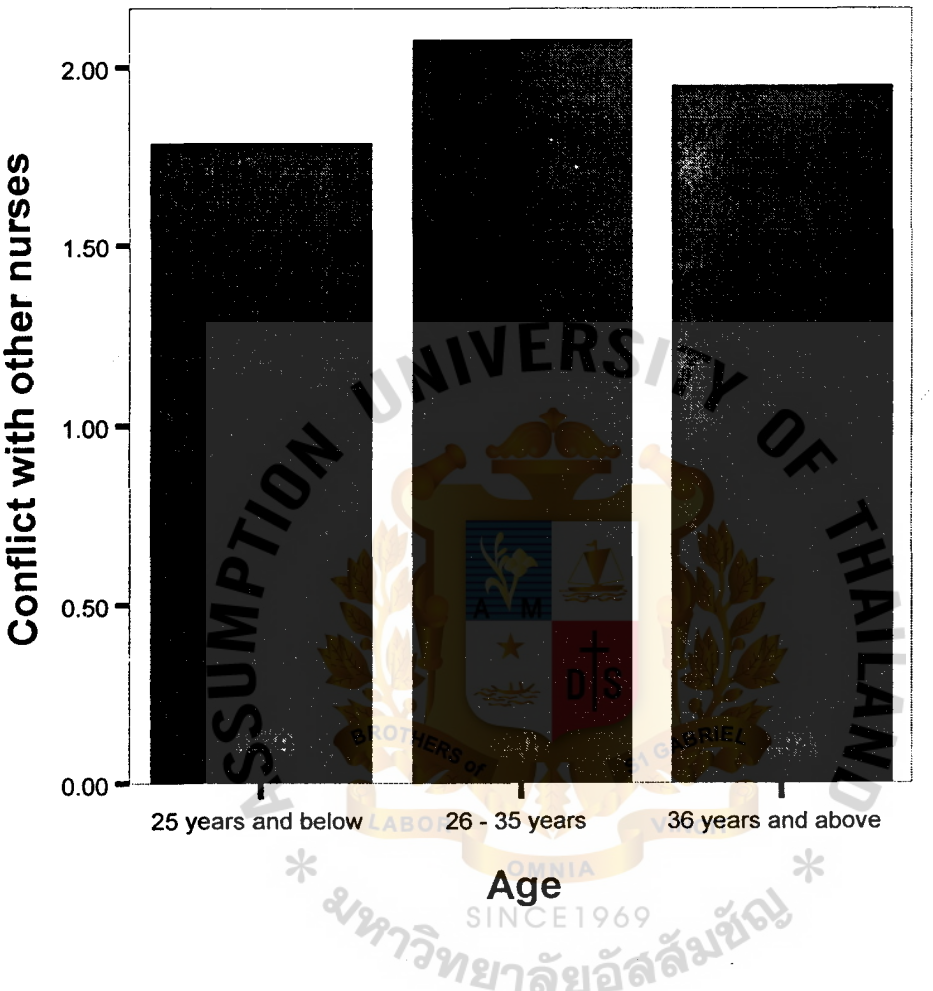
Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H1.1	Age	Death and dying	.139	2	.933	Accept Ho
H1.2		Conflict with physicians	1.420	2	.492	Accept Ho
H1.3		Inadequate preparation	.532	2	.766	Accept Ho
H1.4		Lack of support	1.228	2	.541	Accept Ho
H1.5	Age	Conflict with other nurses	8.957	2	.011	Reject Ho
H1.6	Age	Workload	2.985	2	.225	Accept Ho

H1.7		Uncertainty concerning treatment	.633	2	.729	Accept Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H1.8	Age	Nursing stress	1.250		.289	Accept Ho

From Table 4, given the *p*-values of Kruskal-Wallis and one-way ANOVA tests of hypothesis, H1.1, H1.2, H1.3, H1.4, H1.6, H1.7, H1.8 are all greater than .05 (p = .933, .492, .766, .541, .225, .729, .289, respectively), we can conclude that there are no significant differences in death and dying, conflict with physicians, inadequate preparation, lack of support, workload, uncertainty concerning treatment, and nursing stress between levels of age. Also from the table, the *p*-value of Kruskal-Wallis test of hypothesis H1.5 is less than .05 (p = .011); thus, there is a significant difference in conflict with other nurses between levels of age. Indeed, from the following Figure 1, the age level 26-35 years which has a mean of conflict with other nurses (2.07) is significantly different from the age level 25 years and below (1.78).

Figure 1

Mean of Conflict With Other Nurses in Grouping by Age Levels



Research Hypothesis 2: There are significant differences in nursing stress and its seven sub-factors between categories of marital status.

This hypothesis is further divided into eight sub-hypotheses as shown in Table 5.

Table 5

Sub-Hypotheses of Research Hypothesis 2

No.	Hypothesis
H2.1	There is a significant difference in death and dying between categories of marital status.
H2.2	There is a significant difference in conflict with physicians between categories of marital status.
H2.3	There is a significant difference in inadequate preparation between categories of marital status.
H2.4	There is a significant difference in lack of support between categories of marital status.
H2.5	There is a significant difference in conflict with other nurses between categories of marital status.
H2.6	There is a significant difference in workload between categories of marital status.
H2.7	There is a significant difference in uncertainty concerning treatment between categories of marital status.
H2.8	There is a significant difference in nursing stress between categories of marital status.

Table 6

Summarizing the Assumption Testing and Statistical Tests that Were Used for Research Hypothesis 2

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H2	H2.1	Can not be assumed	N/A*	Kruskal-Wallis
	H2.2			
	H2.3			
	H2.4			
	H2.5			
	H2.6			
	H2.7			
	H2.8	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

The results of testing assumption of normality (see appendix F2) and homogeneity of variances (see appendix F11) are summarized in Table 6. It indicates that Kruskal-Wallis tests were used for hypothesis H2.1 to H2.7 and one-way ANOVA was used for hypothesis H2.8.

Table 7

Test Results for Sub-Hypotheses of Research Hypothesis 2

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H2.1	Marital status	Death and dying	.139	2	.933	Accept Ho
H2.2		Conflict with physicians	2.365	2	.307	Accept Ho
H2.3		Inadequate preparation	.590	2	.744	Accept Ho
H2.4		Lack of support	1.266	2	.531	Accept Ho
H2.5		Conflict with other nurses	1.513	2	.469	Accept Ho
H2.6		Workload	.011	2	.994	Accept Ho
H2.7		Uncertainty concerning treatment	.294	2	.863	Accept Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H2.8	Marital status	Nursing stress	.119		.888	Accept Ho

From Table 7, it can be the *p*-values of Kruskal-Wallis and one-way ANOVA tests of hypothesis H2.1 to H2.8 are all greater than .05 (p = .933, .307, .744, .531, 469,. 994, .863, .888, respectively), we can conclude that there are no significant differences in nursing stress and its seven sub-factors between levels of age.

Research Hypothesis 3: There are significant differences in nursing stress and its seven sub-factors between levels of education.

This hypothesis is further divided into eight sub-hypotheses as shown in Table8.

Table 8

Sub-Hypotheses of Research Hypothesis 3

No.	Hypothesis
H3.1	There is a significant difference in death and dying between levels of education.
H3.2	There is a significant difference in conflict with physicians between levels of education.
H3.3	There is a significant difference in inadequate preparation between levels of education.
H3.4	There is a significant difference in lack of support between levels of education.
H3.5	There is a significant difference in conflict with other nurses between levels of education.
H3.6	There is a significant difference in workload between levels of education.
H3.7	There is a significant difference in uncertainty concerning treatment between levels of education.
H3.8	There is a significant difference in nursing stress between levels of education.

Table 9

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 3

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H3	H3.1	Can not be assumed	N/A*	Kruskal-Wallis
	H3.2			
	H3.3			
	H3.4			
	H3.5			
	H3.6			
	H3.7			
	H3.8	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

The results of testing assumption of normality (see appendix F3) and homogeneity of variances (see appendix F11) are summarized in Table 9. This indicates that Kruskal-Wallis tests were applied for hypothesis H3.1 to H3.7 and one-way ANOVA was used for hypothesis H3.8.

Table 10

Test Results for Sub-Hypotheses of Research Hypothesis 3

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H3.1	Education level	Death and dying	21.910	2	.000	Reject Ho
H3.2		Conflict with physicians	46.868	2	.000	Reject Ho
H3.3	Education level	Inadequate preparation	4.973	2	.083	Accept Ho
H3.4	Education level	Lack of support	10.794	2	.005	Reject Ho
H3.5		Conflict with other nurses	12.367	2	.002	Reject Ho
H3.6		Workload	13.677	2	.001	Reject Ho
H3.7		Uncertainty concerning treatment	9.908	2	.007	Reject Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H3.8	Education level	Nursing Stress Scale	18.704		.000	Reject Ho

Table 10 indicates that there is no significant difference in inadequate preparation between levels of education since the *p*-value is greater than .05 ($p = .083$). In contrast, there are significant differences in death and dying, conflict with physicians, lack of support, conflict with other nurses, workload, uncertainty concerning treatment, and nursing stress between levels of education.

Table 11

Mean Differences of Nursing Stress and Its Sub-Factors in Grouping by Educational Levels

	Educational level					
	Under graduate		Bachelor's Degree		Master's Degree	
	Mean	S.D.	Mean	S.D.	Mean	S.D.
Death and dying	1.81	.54	2.38	.80	1.79	.57
Conflict with physicians	1.58	.37	2.14	.52	1.55	.25
Lack of support	1.77	.73	2.17	.85	1.92	.50
Conflict with other nurses	1.76	.58	2.06	.56	1.63	.43
Workload	2.15	.61	2.51	.60	2.15	.41
Uncertainty concerning treatment	1.85	.50	2.09	.52	1.81	.63
Nursing Stress Scale	1.82	.40	2.23	.45	1.79	.33

Indeed, people who hold a bachelor's degree has a significantly higher mean of sub-factors of nursing stress as indicated in Table 11, than people who belong to both groups of undergraduate and master degree. However, when comparing between undergraduate and master degree groups, those means are different but not significantly.

Table 12

Post-Hoc analysis for One-Way ANOVA Test of Hypothesis H3.8

(I) Educational level	(J) Educational level	Mean Difference (I-J)	Std. Error	Sig.
Under graduate	Master's Degree	.0336	.21827	.987
Bachelor's Degree	Under graduate	.4086(*)	.06795	.000
Bachelor's Degree	Master's Degree	.4421	.21807	.109

* The mean difference is significant at the .05 level.

From table 12, it can be seen that nursing stress scale of bachelor's degree group is significantly higher than undergraduate group.

Research Hypothesis 4: There are significant differences in nursing stress and its seven sub-factors between categories of job position.

This hypothesis is further divided into eight sub-hypotheses as shown in Table 13.

Table 13

Sub-Hypotheses of Research Hypothesis 4

No.	Hypothesis
H4.1	There is a significant difference in death and dying between categories of job position.
H4.2	There is a significant difference in conflict with physicians between categories of job position.

H4.3	There is a significant difference in inadequate preparation between categories of job position.
H4.4	There is a significant difference in lack of support between categories of job position.
H4.5	There is a significant difference in conflict with other nurses between categories of job position.
H4.6	There is a significant difference in workload between categories of marital status.
H4.7	There is a significant difference in uncertainty concerning treatment between categories of job position.
H4.8	There is a significant difference in nursing stress between categories of job position.

Table 14

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 4

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H4	H4.1	Can not be assumed	N/A*	Kruskal-Wallis
	H4.2			
	H4.3			
	H4.4			
	H4.5			

	H4.6	Can be assumed	Can be assumed	One-way ANOVA
	H4.7	Can not be assumed	N/A*	Kruskal-Wallis
	H4.8	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

The results of testing assumption of normality (see appendix F4) and homogeneity of variances (see appendix F11) are summarized in Table 14. It shows that Kruskal-Wallis tests can be employed for hypothesis H4.1 to H4.5, and H4.7. On the other hand, one-way ANOVA can be used for hypothesis H4.6 and H4.8.

Table 15

Test Results for Sub-Hypotheses of Research Hypothesis 4

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H4.1	Job position	Death and dying	30.230	4	.000	Reject Ho
H4.2		Conflict with physicians	48.844	4	.000	Reject Ho
H4.3	Job position	Inadequate preparation	5.010	4	.286	Accept Ho
H4.4	Job position	Lack of support	14.181	4	.007	Reject Ho
H4.5		Conflict with other nurses	12.107	4	.017	Reject Ho
H4.7		Uncertainty concerning treatment	13.240	4	.010	Reject Ho
One-way ANOVA test						
Hypothesis	Independent	Dependent variable	F		Sig.	Result

	variable				
H4.6	Job position	Workload	3.431	.010	Reject Ho
H4.8		Nursing Stress Scale	9.863	.000	Reject Ho

Given that the *p*-value for hypothesis H4.3 is greater than .05 ($p = .286$) while the others are all less than .05, we can conclude that there are significant differences in nursing stress and its sub-factors between categories of job position, except for inadequate preparation factor.

Table 16

Mean Differences of Nursing Stress and Its Sub-Factors in Grouping by Job Position

	Job position									
	Assistant Nurse		General Nurse		Specialized Nurse		Head Nurse / Ward Nurse		Other	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Death and dying	1.84	.56	2.28	.72	2.61	.86	2.17	.77	1.27	.30
Conflict with physicians	1.58	.39	2.12	.44	2.18	.64	2.20	.42	1.44	.33
Lack of support	1.80	.72	2.20	.83	2.21	.93	1.87	.56	1.33	.58
Conflict with other nurses	1.76	.58	1.95	.54	2.18	.59	2.25	.59	1.90	.63

Workload	2.17	.62	2.53	.56	2.46	.65	2.40	.49	1.96	.86
Uncertainty concerning treatment	1.86	.47	2.10	.53	2.09	.60	2.20	.33	1.50	.50
Nursing Stress Scale	1.83	.40	2.19	.43	2.30	.51	2.17	.33	1.56	.43

Table 16 shows statistical data on the respondents' mean differences of nursing stress and its sub-factors in grouping by job position. Specialized nurses showed the highest mean for death and dying which M = 2.61 and SD = .86. In contrast, those with other job position showed the lowest mean M = 1.27 and SD = .30. Specialized nurses have the highest mean in every sub-factor in grouping of job position. The finding, therefore, indicated that specialized nurses have more stress than other nurses working in a private hospital as measured by the Nursing Stress Scale.

Table 17

Post-Hoc Analysis for One-Way ANOVA Test of Hypothesis H4.6 and H4.8

Tukey HSD

Dependent Variable	(I) Job position	(J) Job position	Mean Difference (I-J)	Std. Error	Sig.
Workload	Assistant Nurse	General Nurse	-.3589(*)	.10988	.012
		Specialized Nurse	-.2903	.14280	.255
		Head Nurse / Ward	-.2320	.28123	.923
		Other	.2080	.28123	.947

	General Nurse	Specialized Nurse	.0686	.15026	.991
		Head Nurse / Ward	.1269	.28509	.992
		Other	.5669	.28509	.276
	Specialized Nurse	Head Nurse / Ward	.0583	.29933	1.000
		Other	.4983	.29933	.459
	Head Nurse / Ward Nurse	Other	.4400	.38509	.784
Nursing Stress Scale	Assistant Nurse	General Nurse	-.3563(*)	.07680	.000
		Specialized Nurse	-.4649(*)	.09981	.000
		Head Nurse / Ward	-.3313	.19657	.446
		Other	.2767	.19657	.624
	General Nurse	Specialized Nurse	-.1086	.10502	.839
		Head Nurse / Ward	.0250	.19927	1.000
		Other	.6330(*)	.19927	.015
	Specialized Nurse	Head Nurse / Ward	.1336	.20922	.969
		Other	.7416(*)	.20922	.005
	Head Nurse / Ward	Other	.6080	.26916	.164

* The mean difference is significant at the .05 level.

From Table 17, in the column labeled Mean Difference (I-J), the mean difference values accompanied by the asterisks indicate which job positions differ significantly from each other at the .05 level of significance. The results indicated that the assistant nurses are significantly different from general nurses in workload. In general, assistant nurses and others are significantly different from general and specialized nurses in the Nursing Stress Scale.

Research hypothesis 5: There are significant differences in nursing stress and its seven sub-factors between levels of length of nursing experience.

This hypothesis is further divided into eight sub-hypotheses as shown in Table 18.

Table 18

Sub-Hypotheses of Research Hypothesis 5

No.	Hypothesis
H5.1	There is a significant difference in death and dying between levels of length of nursing experience.
H5.2	There is a significant difference in conflict with physicians between levels of length of nursing experience.
H5.3	There is a significant difference in inadequate preparation between levels of length of nursing experience.
H5.4	There is a significant difference in lack of support between levels of length of nursing experience.
H5.5	There is a significant difference in conflict with other nurses between levels of length of nursing experience.
H5.6	There is a significant difference in workload between levels of length of nursing experience.
H5.7	There is a significant difference in uncertainty concerning treatment between levels of length of nursing experience.
H5.8	There is a significant difference in nursing stress between levels of length of nursing experience.

Table 19

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 5

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H5	H5.1	Can not be assumed	N/A*	Kruskal-Wallis
	H5.2			
	H5.3			
	H5.4			
	H5.5			
	H5.6			
	H5.7			
	H5.8	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

The results of testing assumption of normality (see appendix F5) and homogeneity of variances (see appendix F11) are summarized in Table 19. From that, it is only with hypothesis H5.8 where one-way ANOVA test could be applied otherwise, Kruskal-Wallis was used for hypothesis H5.1 to H5.7.

Table 20

Test Results for Sub-Hypotheses of Research Hypothesis 5

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H5.1	Length of Nursing Experience	Death and dying	4.237	3	.237	Accept Ho
H5.2		Conflict with physicians	7.118	3	.068	
H5.3		Inadequate preparation	2.993	3	.393	
H5.4		Lack of support	2.503	3	.475	
H5.5		Conflict with other nurses	5.482	3	.140	
H5.6		Workload	1.148	3	.765	
H5.7		Uncertainty concerning treatment	.945	3	.815	
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H5.8	Length of Nursing Experience	Nursing Stress Scale	.855		.466	Accept Ho

The results shown in Table 20 that there are no significant differences in nursing stress and its seven sub-factors between levels of length of nursing experience due to the finding that all of *p*-values of Kruskal-Wallis and one-way ANOVA tests are greater than

.05 (p >.05). That means nursing stress and its seven sub-factors do not depend on length of nursing experience.

Research Hypothesis 6: There are significant differences in hardiness and its three sub-factors between levels of age.

This hypothesis is further divided into four sub-hypotheses as shown in Table 21.

Table 21

Sub-Hypotheses of Research Hypothesis 6

No.	Hypothesis
H6.1	There is a significant difference in commitment between levels of age.
H6.2	There is a significant difference in control between levels of age.
H6.3	There is a significant difference in challenge between levels of age.
H6.4	There is a significant difference in hardiness between levels of age.

Table 22

Summarizing the Assumption Testing and Statistical Tests that Were Used for Research Hypothesis 6

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H6	H6.1 H6.2	Can be assumed	Can be assumed	One-way ANOVA

	H6.3	Can not be assumed	N/A*	Kruskal-Wallis
	H6.4	Can be assumed	Can be assumed	One-way ANOVA

*N/A: not applicable

The results of testing assumption of normality (see appendix F6) and homogeneity of variances (see appendix F11) are summarized in Table 22. One-way ANOVA was employed for hypotheses H6.1, H6.2 and H6.4, while Kruskal-Wallis test was applied to hypothesis H6.3.

Table 23

Test Results for Sub-Hypotheses of Research Hypothesis 6

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H6.1	Age	Challenge	3.511	2	.173	Accept Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H6.1	Age	Commitment	4.062		.019	Reject Ho
H6.2		Control	6.434		.002	Reject Ho
H6.4		Hardiness scale	3.425		.035	Reject Ho

Table 23 shows that there are significant differences in commitment, control, and hardiness between levels of age due to the result that the *p*-values of statistical tests are

greater than .05 (p >.05). There is no significant difference in challenge between levels of age.

Table 24

Post-Hoc Analysis for One-Way ANOVA Tests of Hypothesis H6.1, H6.2 and H6.4

Tukey HSD

Dependent Variable	(I) Age	(J) Age	Mean Difference (I-J)	Std. Error	Sig.
Commitment	25 years and below	26-35 years	-.0980	.05682	.199
		36 years and above	-.2586(*)	.09973	.028
	26-35 years	36 years and above	-.1606	.10339	.269
Control	25 years and below	26-35 years	-.1683(*)	.04908	.002
		36 years and above	-.1532	.08615	.180
	26-35 years	36 years and above	.0151	.08931	.984
Hardiness Scale	25 years and below	26-35 years	-.0706	.03251	.079
		36 years and above	-.1085	.05706	.142
	26-35 years	36 years and above	-.0378	.05915	.798

* The mean difference is significant at the .05 level.

From Table24, it can be concluded that nurses who are aged that are 25 years and below are significantly less than those of 36 years and above in commitment and similarly, less than those aged 26-35 years in control.

Research Hypothesis 7: There are significant differences in hardiness and its three sub-factors between categories of marital status.

This hypothesis is further divided into four sub-hypotheses as shown in Table 25.

Table 25

Sub-Hypotheses of Research Hypothesis 7

No.	Hypothesis
H7.1	There is a significant difference in commitment between categories of marital status.
H7.2	There is a significant difference in control between categories of marital status.
H7.3	There is a significant difference in challenge between categories of marital status.
H7.4	There is a significant difference in hardiness between categories of marital status.

Table 26

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 7

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H7	H7.1	Can be assumed	Can be assumed	One-way ANOVA
	H7.2			
	H7.3	Can not be assumed	N/A*	Kruskal Wallis
	H7.4			

*N/A: not applicable

The results of testing assumption of normality (see appendix F7) and homogeneity of variances (see appendix F11) are summarized in Table 26. One-way ANOVA was

employed for hypothesis H7.1 and H7.2, while Kruskal-Wallis test was applied for hypothesis H7.3 and H7.4.

Table 27

Test Results for Sub-Hypotheses of Research Hypothesis 7

Kruskall-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H7.3	Marital status	Challenge	1.815	2	.404	Accept Ho
H7.4		Hardiness Scale	1.305	2	.521	Accept Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H7.1	Marital status	Commitment	.523		.594	Accept Ho
H7.2		Control	2.088		.127	Accept Ho

The results in Table 27 show that there are no significant differences in hardiness and its three sub-factors between categories of marital status.

Research Hypothesis 8: There are significant differences in hardiness and its three sub-factors between levels of education.

This hypothesis is further divided into four sub-hypotheses as listed in Table 28.

Table 28

Sub-Hypotheses of Research Hypothesis 8

No.	Hypothesis
H8.1	There is a significant difference in commitment between levels of education.
H8.2	There is a significant difference in control between levels of education.
H8.3	There is a significant difference in challenge between levels of education.
H8.4	There is a significant difference in hardiness between levels of education.

Table 29

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 8

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H8	H8.1	Can be assumed	Can be assumed	One-way ANOVA
	H8.2			
	H8.3			
	H8.4	Can not be assumed	N/A*	Kruskal-Wallis

*N/A: not applicable

The results of testing assumption of normality (see appendix F8) and homogeneity of variances (see appendix F11) are summarized in Table 29. Kruskal-Wallis test wasapplied for hypothesis H8.4 and the remaining hypothesis H8.1 to H8.3 used one-way ANOVA.

Table 30

Test Results for Sub-Hypotheses of Research Hypothesis 8

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H8.4	Educational level	Hardiness Scale	15.565	2	.000	Reject Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H8.1	Educational level	Commitment	3.498		.033	Reject Ho
H8.2		Control	13.813		.000	Reject Ho
H8.3		Challenge	.326		.722	Accept Ho

From Table 30, we see that there are significant differences in commitment, control, and hardiness between levels of education ($p < .05$), while there is no significant difference in challenge between levels of education ($p > .05$).

Figure 2

Mean of Hardiness Scale in Grouping by Educational Level

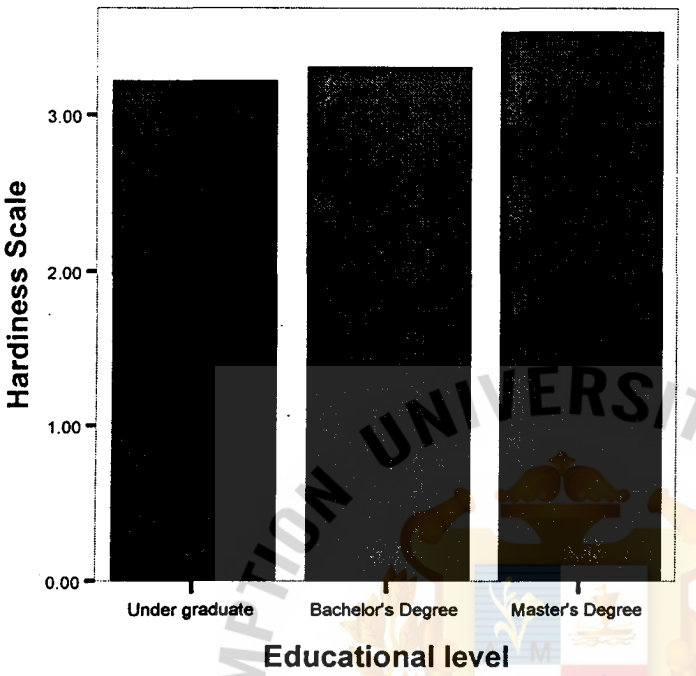


Figure 2 shows statistical data on the respondents' mean of hardiness scale in grouping by educational level. The highest mean was in Master's degree which is 3.55. The lowest mean was in undergraduate which is 3.22.

Table 31

Post-Hoc Analysis for One-Way ANOVA Tests of Hypothesis H8.1, H8.2

Tukey HSD

Dependent Variable	(I) Educational level	(J) Educational level	Mean Difference (I-J)	Std. Error	Sig.

Commitment	Under graduate	Bachelor's Degree	-.0904	.05388	.217
		Master's Degree	-.3956	.17309	.061
	Bachelor's Degree	Master's Degree	-.3052	.17293	.185
Control	Under graduate	Bachelor's Degree	-.1925(*)	.04451	.000
		Master's Degree	-.5194(*)	.14296	.001
	Bachelor's Degree	Master's Degree	-.3269	.14283	.060

* The mean difference is significant at the .05 level.

As seen in Table 31, nurses who are undergraduates are significantly less than those who hold bachelor or master degree in control.

Research Hypothesis 9: There are significant differences in hardiness and its three sub-factors between categories of job position.

This hypothesis is further divided into four sub-hypotheses as listed in Table 32.

Table 32

Sub-hypotheses of research hypothesis 9

No.	Hypothesis
H9.1	There is a significant difference in commitment between categories of job position.
H9.2	There is a significant difference in control between categories of job position.
H9.3	There is a significant difference in challenge between categories of job position.
H9.4	There is a significant difference in hardiness between categories of job position.

Table 33

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 9

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H9	H9.1	Can be assumed	Can not be assumed	Kruskal Wallis
	H9.2	Can be assumed	Can be assumed	One-way ANOVA
	H9.3	Can not be assumed	N/A*	Kruskal Wallis
	H9.4			

*N/A: not applicable

The results of testing assumption of normality (see appendix F9) and homogeneity of variances (see appendix F11) are summarized in Table 33. It indicates that Kruskal-Wallis tests were used for testing hypothesis H9.1, H9.3 and H9.4 while one-way ANOVA was applied for hypothesis H9.2.

Table 34

Test Results for Sub-Hypotheses of Research Hypothesis 9

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H9.1	Job position	Commitment	17.883	4	.001	Reject Ho

H9.3		Challenge	1.477	4	.831	Accept Ho
H9.4		Hardiness Scale	16.001	4	.003	Reject Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H9.2	Job position	Control	5.258		.001	Reject Ho

From table 34, it can be concluded that there are significant differences in commitment, control, and hardiness between categories of job position. But there is no significant difference in challenge between categories of job position.

Figure 3

Mean of Commitment in Grouping by Job Position

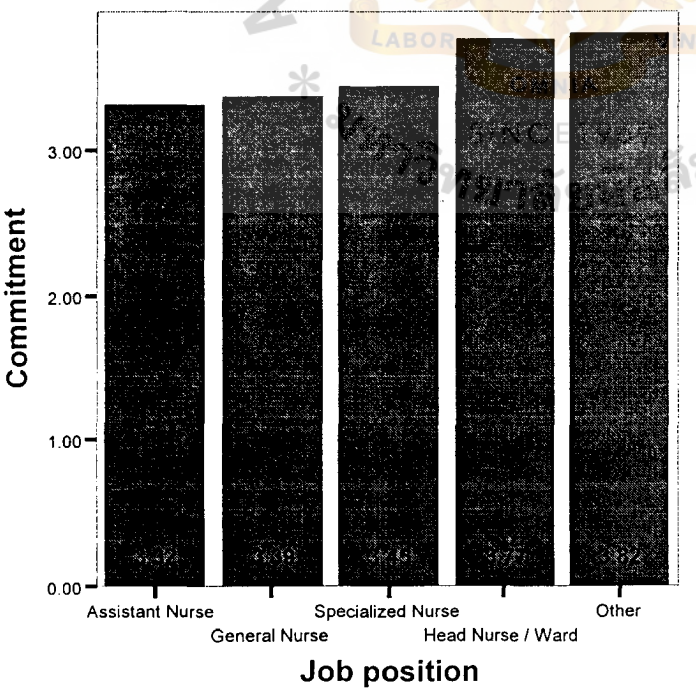


Figure 3 shows statistical data on the respondents' mean of commitment in grouping by job position. The highest mean was for the in job position which is 3.82. The lowest mean was for assistant nurse which is 3.32.

Figure 4

Mean of Hardiness Scale in Grouping by Job Position

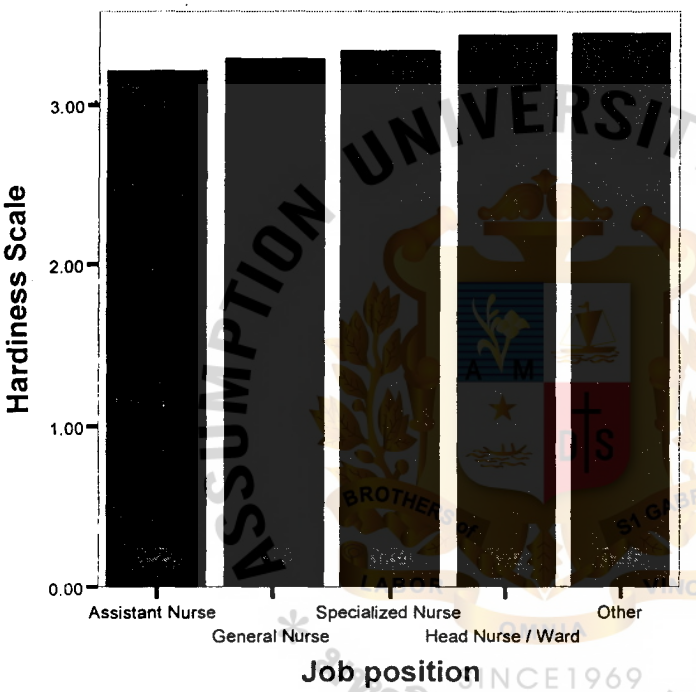


Figure 4 shows statistical data on the respondents' mean of hardiness scale in grouping by job position. The highest mean was for other in job position which is 3.45. The lowest mean was for assistant nurse which is 3.22.

Table 35

Post-Hoc Analysis for One-Way ANOVA Tests of Hypothesis H9.2

Tukey HSD

(I) Job position	(J) Job position	Mean Difference (I-J)	Std. Error	Sig.
Assistant Nurse	General Nurse	-.1721(*)	.05151	.009
	Specialized Nurse	-.2385(*)	.06695	.004
	Head Nurse / Ward	-.1739	.13185	.680
	Other	-.3059	.13185	.144
General Nurse	Specialized Nurse	-.0665	.07044	.879
	Head Nurse / Ward	-.0018	.13366	1.000
	Other	-.1338	.13366	.855
Specialized Nurse	Head Nurse / Ward	.0647	.14033	.991
	Other	-.0673	.14033	.989
Head Nurse / Ward	Other	-.1320	.18054	.949

* The mean difference is significant at the .05 level.

The results in Table 35 affirm that assistant nurses have less control scale significantly than general and specialized nurse.

Research Hypothesis 10: There are significant differences in hardiness and its three sub-factors between levels of length of nursing experience.

This hypothesis is further divided into four sub-hypotheses as shown in Table 36.

Table 36

Sub-Hypotheses of Research Hypothesis 10

No.	Hypothesis
H10.1	There is a significant difference in commitment between levels of length of nursing experience.
H10.2	There is a significant difference in control between levels of length of nursing experience.
H10.3	There is a significant difference in challenge between levels of length of nursing experience.
H10.4	There is a significant difference in hardiness between levels of length of nursing experience.

Table 37

Summarizing the Assumption Testing and Statistical Tests That Were Used for Research Hypothesis 10

Hypothesis		Assumption of Normality	Assumption of Homogeneity of Variances	Statistical test
H10	H10.1	Can be assumed	Can be assumed	One-way ANOVA
	H10.2			
	H10.3	Can not be assumed	N/A*	Kruskal-Wallis
	H10.4			

*N/A: not applicable

The results of testing assumption of normality (see appendix F10) and homogeneity of variances (see appendix F11) are summarized in Table 37. This table indicates that one-way ANOVA was applied for hypothesis H10.1 and H10.2 while Kruskal-Wallis tests were used for testing hypothesis H10.3 and H10.4

Table 38

Test Results for Sub-Hypotheses of Research Hypothesis 10

Kruskal-Wallis tests						
Hypothesis	Independent variable	Dependent variable	Chi-Square	df	Asymp. Sig.	Result
H10.3	Length of Nursing Experience	Challenge	1.591	3	.661	Accept Ho
H10.4		Hardiness Scale	9.804	3	.020	Reject Ho
One-way ANOVA test						
Hypothesis	Independent variable	Dependent variable	F		Sig.	Result
H10.1	Length of Nursing Experience	Commitment	3.969		.009	Reject
H10.2		Control	5.907		.001	Reject

From Table 38, it can be concluded that there are significant differences in commitment, control, and hardiness between lengths of nursing experience. But there is no significant difference in challenge between lengths of nursing experience.

Figure 5

Mean of Hardiness Scale in Grouping by Length of Nursing Experience

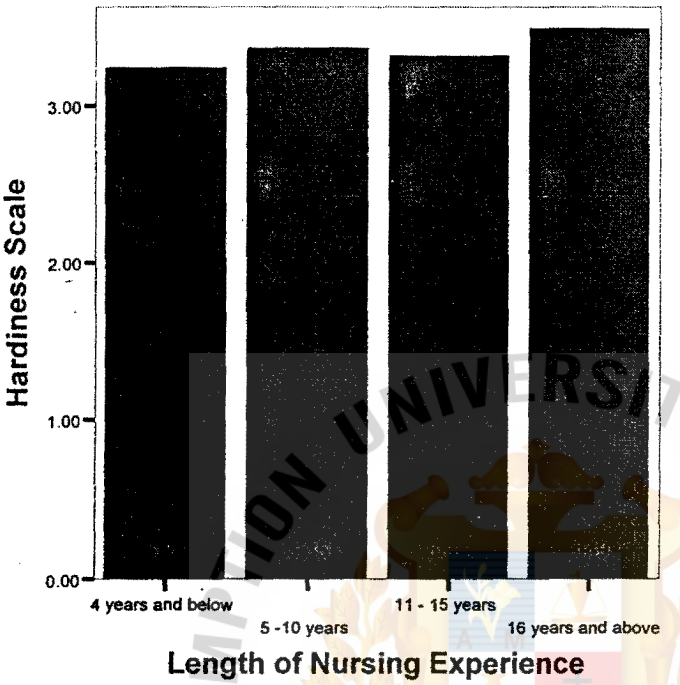


Figure 5 shows statistical data on the respondents' mean of hardiness scale in grouping by length of nursing experience. The highest mean of length of nursing experience was for 16 years and above which is 3.49. The lowest mean of length of nursing experience was for 4 years and below which is 3.24.

Table 39

Post-Hoc Analysis for One-Way ANOVA Tests of Hypothesis H10.1 and H10.2

Tukey HSD

Dependent Variable	(I) Length of Nursing	(J) Length of Nursing Experience	Mean Difference	Std. Error	Sig.

	Experience		(I-J)		
Commitment	4 years and below	5-10 years	-.1698	.07250	.093
		11-15 years	-.1490	.08906	.342
		16 years and above	-.3701	.15242	.076
	5-10 years	11-15 years	.0208	.10600	.997
		16 years and above	-.2003	.16290	.609
	11-15 years	16 years and above	-.2211	.17092	.568
Control	4 years and below	5-10 years	-.2146(*)	.06245	.004
		11-15 years	-.1284	.07671	.341
		16 years and above	-.3274	.13129	.065
	5-10 years	11-15 years	.0862	.09130	.781
		16 years and above	-.1128	.14032	.852
	11-15 years	16 years and above	-.1990	.14722	.532

* The mean difference is significant at the .05 level.

The result from Table 39 emphasized that nurses who have 5-10 years working experiences is higher significantly in control than those with 4 years and below.

Research Hypothesis 11: There is a significant relationship between nursing stress and hardiness.

This is a hypothesis of association that related to two interval-scale variables which are nursing stress and hardiness. Although distribution of nursing stress and hardiness data both can be assumed as normality (see appendix F12), the scatter-plot for these two variables shows that the assumptions of linearity and homoscedasticity have been violated (see figure 6) due to outcome the scores do not cluster uniformly about the regression line. Thus, Spearman's rho rank correlation was utilized.

Figure 6:

Scatter-Plot of Nursing Stress Scale and Hardiness Scale

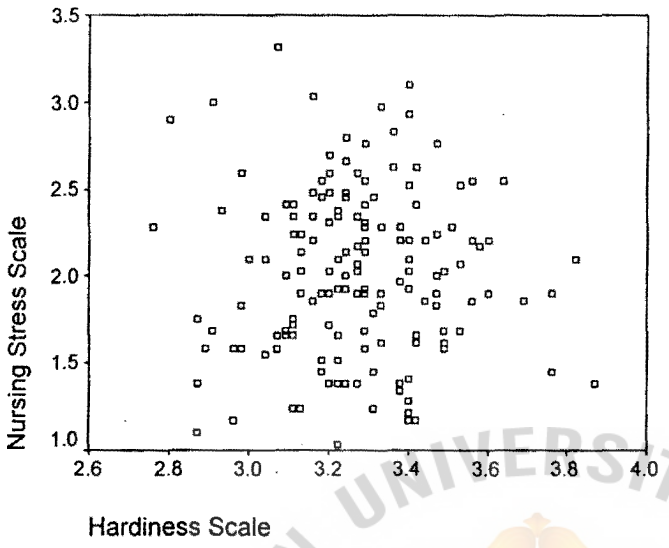


Table 40

Results of Spearman's rho Rank Correlation Test for Research Hypothesis 11

		Hardiness Scale
Nursing Stress Scale	Correlation Coefficient	.012
	Sig. (2-tailed)	.882
	N	161

As seen in Table above, *p*-value is greater than .05 ($p = .882 > .05$). This means that there is no significant relationship between nursing stress and hardiness among the nurses working in a private hospital in Bangkok.

CHAPTER V

Summary and Discussion of Findings, Conclusions, and Recommendation

This study examined the Occupational stress and hardiness of nurses working in a private hospital in Bangkok. The previous chapter presented the results of the statistical analysis of data collected from the subjects of the study. Therefore, a discussion of the findings in thematic from is apropos, preceded by summary of findings and followed by conclusions and recommendations.

This chapter begins with an overview of the study and proceeds to present the following section in the given order: (a) summary of findings, (b) discussion of findings, (c) conclusions, and (d) recommendations.

Overview of the Study

The study aimed to examine the differences in the occupational stress of nurses at a private hospital in the west central district of Bangkok, in relation to their age, marital status, educational level, job position, and length of nursing experience. Likewise, the study sought to examine the differences in the nurses' hardiness as a function of the same demographic characteristics. Finally, the study attempted to determine the association between occupational stress and hardiness among the nurses.

The subjects of the study consisted of 161 nurses working at a private hospital. Data was collected from the respondents through the research instrument which consisted of the Personal Information Questionnaires, the Nursing Stress Scale and Hardiness Scale. Data were processed through SPSS Version 11.5, and findings were presented in tables and figures with corresponding analysis.

Summary of Findings

Respondents' Demographic Profile

Age.

The age of respondents was grouped into fours categories. The majority of respondents in this study were nurses aged 25 years and below with a frequency of 91 or 56.5%; followed by those aged 26–35 years with frequency 0f 57 or 35.4%; followed by the group with age 36–45 years 13 or 7.5%; and followed by the group of age 46 years and above 1 or .6%.

Marital status.

The marital status of respondents was classified into three groups. The majority of respondents in this study were single with a frequency of 134 or 83.2%; the followed by the group with marital status were married with frequency of 24 or 14.9%, and followed by the group with marital status were divorced / separated with frequency of 3 or 1.9%.

Educational level.

The educational level of respondents was grouped into three groups. The most number of respondents were holders of Bachelor's degree with a frequency of 80 or 49.7%, the followed by the group with undergraduate educational level with frequency of 77 or 47.8%, and the smallest group was Master's degree holders with frequency of 4 or 2.5%.

Job position.

Job position was grouped into five categories. The majority of respondents in this study belonged to the job position of assistant nurse with a frequency of 75 or 46.6%;

followed by general nurse with a frequency of 52 or 32.3%; followed by specialized nurse with frequency of 24 or 14.9%. There were two groups which had same frequency of 5 or 3.1% (head nurse and other).

Length of experience.

The length of experience was grouped into five categories. Most of the respondents as to length of experience were those with 4 years and below with a frequency of 114 or 70.8%; followed by the group with length of experience of 5-10 years with frequency of 26 or 16.1%; followed by the group with length of experience of 11-15 years with frequency of 16 or 9.9%; followed by the group with length of experience of 16 -20 years with frequency of 3 or 1.9%, and the least number of respondents were in the longest the category of 20 years and above, with frequency of 2 or 1.2%.

Discussion of Findings

With reference to Research Question One: Are there significant differences in the occupational stress of nurses in a private hospital, particularly in relation to their age, marital status, educational level, job position, and length of nursing experience? The related findings are discussed as follows:

Age.

There are significant differences in nursing stress in the sub-factor of conflict with other nurses between levels of age. Findings showed the high level of nursing stress in the sub-factor of conflict with other nurses. This suggests that older nurses, who have more nursing experience, are likely to be more confident and assertive, and this may lead to the

occurrence of some disparity in point of view, within the context of nursing work, with those who are younger.

Level of education.

There are significant differences in nursing stress in the sub-factors of death and dying, conflict with physicians, lack of support, conflict with other nurses, workload, and uncertainly concerning treatment between levels of education. Findings showed that the group with bachelor's degree reported higher level of nursing stress in the sub-factor of workload. This may be because those with bachelor's degree may have most of the responsibilities with patients. Those who nursing bachelor's degrees are registered nurses. They may have to do all the work. It may be different from those who with master's degree who are head nurse or department heads that may have lower workload.

Job position.

There are significant differences in nursing stress in the sub-factors of death and dying, conflict with physicians, lack of support, conflict with other nurses, workload and uncertainty concerning treatment between categories of job position. Findings showed that specialized nurses reported higher level of nursing stress in the sub-factor of death and dying. This indicates that those specialized nurse have more responsibilities and have many serious cases in their work. They may be suffering from the difficulties of handling their dual role as clinicians and specialized nurse. Also perhaps because of higher expectations of physicians, of patients and their families in the specialized nurse, regardless of position level and quantity of work.

With reference to Research Question Two: Are there significant differences in the hardiness of nurses in private hospitals, particularly in relation to their age, marital status, educational level, job position, and length of nursing experience? The related findings are discussed as follow:

Age.

There are significant differences in hardiness in the sub-factors of commitment and control between levels of age. The older age group reported a higher level of commitment and control. This suggests that older nurses strive to gain control of what they can by going into action. While acknowledging that it is true that many aspects of a crisis situation cannot be controlled, they may also understand that by intentionally developing and holding onto a positive, optimistic, and hopeful outlook, they can always determine their reaction to any predicament they face. As Johnston (2001) suggested, people can choose our best attitude, and the better they are at doing this, the greater is their sense of being in charge of their circumstances.

Level of education.

There are significant differences in hardiness in the sub-factors of commitment and control between levels of education. The group with master's degree reported higher level of commitment and control. This may be because the nurses with a graduate degree have greater self-control and loyalty to their vocation due to advanced academic training and opportunities to better themselves in all aspects of their work.

Job position.

There are significant differences in hardiness in sub-factors of commitment and control between categories of job position. Findings showed that the group with other including technicians reported higher level of the commitment and control. This may be because they have lesser level of responsibility in terms of patient care but have more control in terms of laboratory equipment.

Length of nursing experience.

There are significant differences in hardiness in sub-factors of commitment and control between levels of length of nursing experience. Findings showed that the group with more length of nursing experience reported higher level of the commitment and control. This may be because these nurses have been working long enough to feel more in control of themselves and their work, as well as have higher commitment than those with lesser experience.

With reference to Research Question Three: Is there any relationship between occupational stress and hardiness of nurses in private hospital?

It was found that there is no significant relationship between nursing stress and hardiness. This is not supported by Hall (1992) who found a negative correlation between occupational stress and hardiness. In addition, Gomez (1994) also found an inverse relationship between the two variables. Likewise, Malik (1997) found an inverse association between the two. Because of conflicting findings, this researcher agrees with Gomez (1994) who recommended continued research into the clarification of the hardiness construct, its value, and its effects on personal well-being and work-performance.

Conclusion

Based on the core findings of the study, the following conclusions are drawn: with respect stress factors with respect to nurses stress factor; death and dying, conflict with physician, inadequate preparation to deal with the emotional needs of patients and their families, lack of support, conflict with other nurses and supervisor, workload, and uncertainty concerning treatment, all are perceived as occupational stress factors by the nurses working in private hospitals in Bangkok.

The implication of the study is that knowing what occupational stress sources are, hospital administrators and even nurses themselves can develop coping strategies in order to reduce the occupational stress. Hardiness is an important factor that needs to be developed in nurses to help them cope with stress.

It can be concluded that while occupational stress is acknowledged as part and parcel of nursing work, hardiness is often taken for granted or probably even ignored. Hardiness should be given importance through training interventions to help develop the nurses' appraisal of challenge, commitment to their work, and control of themselves at work.

Recommendation

Learning to cope successfully with occupational stress is only half the battle. Nursing is experiencing certain impasses that need to be addressed in order to alleviate the stress levels. This researcher offers the following recommendations.

For individual and groups involved with the nursing profession:

1. Conflict with physicians, work load, uncertainty concerning treatment, death and dying, and conflict with other nurses are the most major perceived sources of stress. Further analysis should be undertaken by hospital administrators on whether or not these

factors are indeed actual problems among nurses and that immediate steps be taken to solve these problems.

2. Consideration should be given to additional organizational support in the form of counseling sessions, recreational, and relaxation facilities (e.g., massage sessions, gym facilities, music room, meditation room facilities).

3. Building staff relationship in every department by the creation and implementation of social programs that are aimed at developing and maintaining good relationships at work.

4. Stress caused by shift work may be reduced; management/head nurses should design work schedules on a forward rotation basis to minimize the disruption of body rhythms. Furthermore, nurses among themselves can coordinate through exchange of shift work schedule to minimize workload and stress without compromising working hours.

For further research on the nursing and hardiness variable:

1. Further research should incorporate an assessment of work performance, social support systems, and burnout in addition to measure of stress and hardiness as predictors of coping strategies, work ability or work performance.

2. Continued research into the clarification of the hardiness construct: its value, and its effects on personal well-being and work-performance.

3. The researcher also recommends that other behavioral researchers consider constructing, validating, and standardizing a new nursing stress scale, as the original NSS is considered relatively outdated.

4. It is also recommended that other researchers interested in the variables of this study should consider: (a) using multiple regression in the statistical treatment of data to find out which factors contribute more toward hardiness; or, alternatively, (b) reducing the

number of nursing stress scale sub-factors into only those deemed most prevalent in the local nursing practice.

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APPENDIX A

Letter of Request

17 กรกฎาคม 2549

เรื่อง ขอความอนุเคราะห์ในการเก็บรวบรวมข้อมูลเพื่อการวิจัย

เรียน ท่านผู้อำนวยการโรงพยาบาลปิยะเวท

ดิฉันนางสาว ทวีทรัพย์ จินดารัตน์ รหัสนักศึกษา 451-9411 ปัจจุบันดิฉันศึกษาอยู่ในระดับปริญญาโท คณะจิตวิทยา สาขาการให้คำปรึกษา (Counseling Psychology) มหาวิทยาลัยอัสสัมชัญ กำลังทำการวิจัยเพื่อเขียนวิทยานิพนธ์เกี่ยวกับ A Study of the Occupational Stress and Hardiness Among Nursing Working in Private Hospital in Bangkok ซึ่งเป็นส่วนหนึ่งของหลักสูตรปริญญาวิทยาศาสตร์มหาบัณฑิต และเพื่อเป็นประโยชน์ในการนำผลการวิจัยที่ได้ในครั้งนี้ ไปใช้ในการวางแนวทางปฏิบัติอันจะทำให้เกิดคุณประโยชน์ที่สำคัญต่อ พยาบาล ครอบครัว และโรงพยาบาล

ด้วยเหตุนี้ จึงใคร่ขอความอนุเคราะห์จากท่านเพื่อขอแจกแบบสอบถามให้กับพยาบาลทุกแผนก จึงเรียนมาเพื่อโปรดพิจารณาให้ความอนุเคราะห์

ด้วยความเคารพอย่างสูง

.....

น.ส. ทวีทรัพย์ จินดารัตน์

ขอแสดงความนับถือ

.....

ดร. วรพจน์ รักธรรม

คณบดี คณะจิตวิทยา

มหาวิทยาลัยอัสสัมชัญ

APPENDIX B

Survey Questionnaire (English Version)

PERSONAL INFORMATON QUESTIONNAIRE

Part I: Please indicate the item which is true for you by placing a check/tick (/) in front of the following items:

1. Age

☐ 25 years and below
☐ 26-35 years
☐ 36-45 years
☐ 46 years and above

2. Marital Status

☐ Single
☐ Married
☐ Divorced/Separated
☐ Widowed

3. Educational Level

☐ Undergraduate
☐ Bachelor Degree
☐ Master Degree
☐ Doctorate Degree

4. Job Position

☐ Assistant Nurse
☐ General Nurse
☐ Specialized Nurse
☐ Head Nurse/Ward
☐ Nurse Supervisor
☐ Other, please specify:

.....

5. Length of Nursing Experience

☐ 4 years and below
☐ 5-10 years
☐ 11–15 years
☐ 16–20 years
☐ 20 years and above

NSS

Part II: Please choose only one scale in each statement that describes best your opinion and feeling by placing a check / tick (/) in the appropriate column.

	Statement	Never 1	Seldom 2	Yes, occasionally 3	Yes, often 4	Yes, Always 5
1	Performing procedures that patients experience as painful.					
2	Criticism by a physician.					
3	Being asked a question by a patient for whom I do not have a satisfactory answer.					
4	Lack of an opportunity to talk openly with other unit personal about problems on the unit.					
5	Conflict with a supervisor.					
6	Breakdown of computer.					
7	Inadequate information form a physician regarding the medical condition of a patient					
8	Feeling helpless in the case of a patient who fails to improve.					
9	Conflict with a physician.					
10	Feeling inadequate prepared to help with the emotional needs of a patient.					
11	Lack of an opportunity to share experiences and feelings with other personnel on the unit.					
12	Difficulty in working with a particular nurse (or nurse) outside the unit.					
13	Unpredictable staffing and scheduling.					
14	A physician ordering what appears to be inappropriate treatment for a patient.					
15	Listening or talking to a patient about his/her approaching death.					
16	Fear of making a mistake in treating a patient.					
17	Lack of an opportunity to other personal on the unit my negative feelings towards patients.					
18	Criticism by a supervisor.					
19	Not enough time to provide emotional support to patient.					

20	Not knowing what a patient or a patient's family ought to be told about the patient's condition and its treatment.					
21	In the death situation of a patient.					
22	Disagreement concerning the treatment of a patient.					
23	Difficulty in working with a particular nurse (or nurses) on the unit.					
24	Not enough time to complete all of my nursing tasks.					
25	Uncertainty regarding the treatment procedure and functioning of specialized equipment.					
26	The death of a patient with whom you developed a close relationship.					
27	Making a decision concerning a patient when the physician is unavailable.					
28	Not enough staff to adequately cover the unit.					
29	Watching a patient suffer.					

HS

Part III: Please choose only one scale in each statement that best describes your opinion and feeling by placing a check / tick (/) in the appropriate column.

		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1	Most of my life gets spend doing things that are worthwhile.	1	2	3	4	5
2	Planning ahead can help avoid most future problems.	1	2	3	4	5
3	Trying hard doesn't pay, since things still don't turn out right.	1	2	3	4	5
4	No matter how hard I try, my efforts usually accomplish nothing.	1	2	3	4	5
5	I don't like to make changes in my everyday schedule.	1	2	3	4	5
6	The "tried and true" ways are always best.	1	2	3	4	5
7	Working hard doesn't matter, since only the bosses profit by it.	1	2	3	4	5
8	By working hard you can always achieve your goals.	1	2	3	4	5
9	Most working people are simply manipulated by their bosses.	1	2	3	4	5
10	Most of what happens in life is just meant to be.	1	2	3	4	5
11	It's usually possible for me to change things at work.	1	2	3	4	5
12	New laws should never hurt a person's paycheck.	1	2	3	4	5
13	When I make plans, I'm certain I can make them work.	1	2	3	4	5
14	It's very hard for me to change a friend's mind about something.	1	2	3	4	5
15	It's exciting to learn something about myself.	1	2	3	4	5
16	People who never change their minds usually have good judgment.	1	2	3	4	5
17	I really look forward to my work.	1	2	3	4	5
18	Politicians run our lives.	1	2	3	4	5
19	If I'm working on a difficult					

	task, I know when to seek help.	1	2	3	4	5
20	I won't answer a question until I'm really sure I understand it.	1	2	3	4	5
21	I like a lot of variety in my work.	1	2	3	4	5
22	Most of the time, people listen carefully to what I say.	1	2	3	4	5
23	Daydreams are more exciting than reality for me.	1	2	3	4	5
24	Thinking of yourself as a free person just leads to frustration.	1	2	3	4	5
25	Trying your best at work really pays off in the end.	1	2	3	4	5
26	My mistakes mare usually very difficult to correct.	1	2	3	4	5
27	It bothers me when my daily routine gets interrupted.	1	2	3	4	5
28	It's best to handle most problems by just not thinking of them.	1	2	3	4	5
29	Most good athletes and leaders are born, not made	1	2	3	4	5
30	I often wake up eager to take up my life wherever it left off.	1	2	3	4	5
31	Lots of times, I don't really know my own mind.	1	2	3	4	5
32	I respect rulers because they guide me.	1	2	3	4	5
33	I like it when things are uncertain or unpredictable.	1	2	3	4	5
34	I can't do much to prevent it if someone wants to harm me	1	2	3	4	5
35	People who do there are best should get full support from society.	1	2	3	4	5
36	Changes in routine are interesting to me.	1	2	3	4	5
37	People who believe in individuality are only kidding themselves.	1	2	3	4	5
38	I have no use for theories that are not closely tried to facts.	1	2	3	4	5
39	Most days, life is really interesting and excited about working.	1	2	3	4	5
40	I want to be sure someone will take care of me when I'm old.	1	2	3	4	5
41	It's hard to imagine anyone getting excited about working.	1	2	3	4	5
42	What happens to me tomorrow					

	depends on what I do today.	1	2	3	4	5
43	If someone gets angry at me, It's usually no fault of mine.	1	2	3	4	5
44	It's hard to believe people who say their work helps society.	1	2	3	4	5
45	Ordinary work is just too boring to be worth doing.	1	2	3	4	5

Appendix C

Survey Questionnaire (Thai Version)

การศึกษาเกี่ยวกับภาวะความเครียดและความอดทนในการทำงานของพยาบาลวิชาชีพในโรงพยาบาลปิยะเวท

เรียน ผู้ตอบแบบสอบถาม

แบบสอบถามฉบับนี้ได้จัดทำขึ้นโดยมีวัตถุประสงค์เพื่อใช้ในการศึกษาเกี่ยวกับภาวะความเครียดและความอดทนในการทำงานของพยาบาลวิชาชีพในโรงพยาบาลปิยะเวท ซึ่งการศึกษาดังกล่าวเป็นส่วนหนึ่งของการสำเร็จการศึกษาในระดับปริญญาโท ภาควิชาจิตวิทยาการให้คำปรึกษา มหาวิทยาลัยอัสสัมชัญ

ผู้วิจัยใคร่ขอขอบคุณทุกท่านที่สละเวลาในการตอบแบบสอบถามฉบับนี้ คำตอบที่มีค่าของท่านจะถือเป็นความลับและจะถูกทำลายทันที หลังจากเสร็จสิ้นผลการวิเคราะห์

ขอแสดงความนับถือ

ทวีทรัพย์ จินคารัตน์

ผู้จัดทำ

ตอนที่ 1 : ข้อมูลส่วนตัว

คำแนะนำ: โปรดตอบคำถามทุกข้อตามความเป็นจริงเกี่ยวกับตัวท่าน โดยใส่เครื่องหมาย (/) หน้าคำตอบที่ถูกต้อง

1. อายุ

☐ ต่ำกว่า 25 ปี
☐ 26 - 35 ปี
☐ 36 – 45 ปี
☐ มากกว่า 46 ปี

2. สถานะภาพสมรส

☐ โสด
☐ แต่งงาน
☐ หย่าร้าง / แยกกันอยู่
☐ คู่สมรสเสียชีวิต

3. ระดับการศึกษา

☐ ต่ำกว่าระดับปริญญาตรี
☐ ปริญญาตรี
☐ ปริญญาโท
☐ ปริญญาเอก

4. ตำแหน่งงาน

☐ ผู้ช่วยพยาบาล
☐ พยาบาลทั่วไป
☐ พยาบาลเฉพาะด้าน
☐ หัวหน้าวอร์ด
☐ พยาบาลผู้ตรวจการ
☐ อื่นๆ กรุณาเติม.....

5. ประสบการณ์ในการทำงานด้านการพยาบาล

☐ ต่ำกว่า 4 ปี
☐ 5 -10 ปี
☐ 11 – 15 ปี
☐ 16 – 20 ปี
☐ มากกว่า 20 ปี

ตอนที่ 2

คำแนะนำ: กรุณาเลือกข้อความที่อธิบายความหมายได้ตรงกับความคิดเห็นและความรู้สึกของท่านมากที่สุด โดยใส่เครื่องหมายถูก (/) ในช่องที่จัดไว้ให้

		ไม่เคย 1	นานๆ ครั้ง 2	บางครั้ง 3	บ่อยครั้ง 4	สม่ำเสมอ 5
1	ข้าพเจ้าเคยทำการรักษาใดๆ ที่ทำให้ผู้ป่วยเจ็บปวด					
2	ข้าพเจ้าเคยถูกวิพากษ์วิจารณ์จากแพทย์					
3	ผู้ป่วยเคยถามคำถามที่ข้าพเจ้าไม่สามารถหาคำตอบที่ทำให้ผู้ป่วยพึงพอใจได้					
4	ข้าพเจ้าไม่มีโอกาสที่จะพูดคุยอย่างเปิดอกพนักงานในแผนกอื่นเกี่ยวกับปัญหาในแผนกของตน					
5	ข้าพเจ้าเคยมีความขัดแย้งกับหัวหน้างาน					
6	คอมพิวเตอร์ที่ใช้ในแผนกเคยทำงานผิดพลาด					
7	ข้าพเจ้าเคยได้รับข้อมูลการรักษาที่ไม่เพียงพอเกี่ยวกับกับผู้ป่วยจากแพทย์					
8	ข้าพเจ้ารู้สึกว่าไม่สามารถช่วยอะไรได้ เมื่อผู้ป่วยที่ข้าพเจ้าดูแลมีอาการไม่ดีขึ้น					
9	ข้าพเจ้าเคยมีความขัดแย้งกับแพทย์					
10	ข้าพเจ้าเคยรู้สึกว่าไม่สามารถช่วยให้ผู้ป่วยรู้สึกดีขึ้น					
11	ข้าพเจ้าไม่มีโอกาสที่จะแลกเปลี่ยนประสบการณ์และความรู้สึกกับเพื่อนร่วมงานในแผนก					
12	ข้าพเจ้าเคยประสบปัญหาในการทำงานร่วมกับพยาบาลแผนกอื่น					
13	ข้าพเจ้าได้รับการจัดสรรงานและตารางการทำงานที่ไม่สามารถคาดการณ์ได้					
14	แพทย์ เคยให้คำสั่งการรักษาที่ไม่เหมาะสมแก่ผู้ป่วย					
15	ข้าพเจ้ามักได้รับฟังหรือพูดคุยกับผู้ป่วยที่ใกล้จะเสียชีวิต					
16	ข้าพเจ้ากลัวที่จะดูแลผู้ป่วยผิดพลาด					
17	ข้าพเจ้าไม่มีโอกาสจะแสดงความรู้สึกไม่ดีที่มีต่อผู้ป่วยให้ผู้อื่นได้รับรู้					
18	ข้าพเจ้าเคยถูกวิพากษ์วิจารณ์จากหัวหน้างาน					
19	ข้าพเจ้ามีเวลาไม่เพียงพอที่จะให้กำลังใจผู้ป่วย					
20	ข้าพเจ้าไม่ทราบว่าจะแจ้งผู้ป่วยหรือญาติให้ทราบถึงสภาวะและวิธีการรักษาในการรักษาตัวผู้ป่วยอย่างไรดี					
21	ข้าพเจ้าเคยอยู่ในสถานการณ์การเสียชีวิตของผู้ป่วย					

		ไม่เคย 1	นานๆ ครั้ง 2	บางครั้ง 3	บ่อยครั้ง 4	สม่ำเสมอ 5
22	ข้าพเจ้าเคยรู้สึกไม่เห็นด้วยกับการดูแลรักษาผู้ป่วย					
23	ข้าพเจ้าเคยประสบปัญหาในการร่วมงานกับพยาบาลในแผนกเดียวกัน					
24	ข้าพเจ้ามีเวลาไม่เพียงพอที่จะจัดการกับงานที่ได้รับมอบหมายให้แล้วเสร็จ					
25	ข้าพเจ้าไม่แน่ใจเกี่ยวกับขั้นตอนการรักษาและวิธีการในการใช้เครื่องมือพิเศษเฉพาะด้าน					
26	ข้าพเจ้าเคยอยู่ในสถานการณ์การเสียชีวิตของผู้ป่วยที่ข้าพเจ้าดูแลใกล้ชิด					
27	ข้าพเจ้าเคยตัดสินใจเกี่ยวกับการรักษาผู้ป่วย เมื่อแพทย์ไม่อยู่					
28	ข้าพเจ้าเคยรู้สึกว่ามีพยาบาลไม่เพียงพอกับความต้องการของแผนก					
29	ข้าพเจ้าเคยเห็นผู้ป่วยทนทุกข์ทรมาน					

ตอนที่ 3

คำแนะนำ: กรุณาเลือกข้อความที่อธิบายความหมายได้ตรงกับความคิดเห็นและความรู้สึกของท่านมากที่สุด โดยใส่เครื่องหมายถูก (/) ในช่องที่จัดไว้ให้

		ไม่เห็นด้วยอย่างยิ่ง 1	ไม่เห็นด้วย 2	เฉยๆ 3	เห็นด้วย 4	เห็นด้วยอย่างยิ่ง 5
1	ฉันใช้ชีวิตของฉันส่วนใหญ่ในการทำสิ่งที่คุ้มค่า					
2	การวางแผนล่วงหน้าสามารถหลีกเลี่ยงปัญหาส่วนใหญ่ที่ จะเกิดขึ้นได้ในอนาคต					
3	การใช้ความพยายามสูงไม่มีประโยชน์เพราะสิ่งต่างๆ ไม่เป็นไปตามความต้องการ					
4	ถึงแม้ฉันจะพยายามมากเท่าใด ความพยายามของฉันมักจะไม่ประสบความสำเร็จเลย					
5	ฉันไม่ชอบการเปลี่ยนแปลงตารางเวลาประจำวันของฉัน					
6	วิธีการที่ “ได้ลองและได้ผล” มักจะเป็นวิธีการที่ดีที่สุด					
7	การทำงานหนักไม่มีประโยชน์ เพราะมีแค่เจ้านายเท่านั้นที่จะได้รับผลประโยชน์					
8	ด้วยการทำงานหนักเราสามารถบรรลุเป้าหมายของเราเสมอ					
9	คนทำงานส่วนใหญ่มักถูกใช้เป็นประโยชน์ โดยเจ้านายของเขา					
10	สิ่งที่เกิดขึ้นในชีวิตส่วนมากเป็นสิ่งที่ควรเกิดขึ้นอยู่แล้ว					
11	มักจะเป็นไปไม่ได้ที่ฉันจะเปลี่ยนอะไรในที่ทำงาน					
12	กฎหมายใหม่ไม่ควรที่ส่งผลกระทบต่อรายได้ของใครทั้งสิ้น					
13	เมื่อฉันวางแผน ฉันแน่ใจว่าฉันจะทำให้แผนดังกล่าวประสบผลสำเร็จ					
14	เป็นสิ่งที่ยากมากที่ฉันจะเปลี่ยนความคิดของเพื่อนฉันได้					
15	ฉันตื่นเต้นที่จะเรียนรู้บางสิ่งบางอย่างเกี่ยวกับตัวเอง					
16	คนที่ไม่เคยเปลี่ยนใจมักมีการตัดสินใจที่ดี					

		ไม่เห็นด้วยอย่างยิ่ง 1	ไม่เห็นด้วย 2	เฉยๆ 3	เห็นด้วย 4	เห็นด้วยอย่างยิ่ง 5
17	ฉันตั้งตาคอยที่จะทำงานของตนเอง					
18	นักการเมืองควบคุมจัดการชีวิตของเรา					
19	ถ้าฉันทำงานที่ยาก ฉันรู้ว่าเมื่อใดควรจะขอความช่วยเหลือจากผู้อื่น					
20	ฉันจะไม่ตอบคำถามจนกระทั่งใจว่าฉันเข้าคำถามนั้น					
21	ฉันชอบความหลากหลายในงานของฉัน					
22	ส่วนใหญ่คนจะตั้งใจฟังฉันอย่างละเอียด					
23	ความฝันเป็นสิ่งที่น่าตื่นเต้นมากกว่าความจริง					
24	การคิดว่าตนเองเป็นผู้ที่มีอิสระเพียงแต่จะนำไปสู่ความคับข้องใจ					
25	การตั้งใจทำให้ดีที่สุดในการงานมักจะทำให้ประสบความสำเร็จในที่สุด					
26	ความผิดพลาดของฉันมักจะยากที่จะแก้ไข					
27	ฉันรู้สึกหงุดหงิดเมื่อชีวิตประจำวันของฉันถูกรบกวน					
28	วิธีที่การที่ดีที่สุดในการจัดการกับปัญหาส่วนใหญ่คือ การเพียงแต่เลิกคิดถึง ปัญหาเหล่านั้น					
29	นักกีฬาและผู้นำที่ดีส่วนใหญ่จะเป็นมาแต่กำเนิดไม่ได้จากการเรียนรู้					
30	ฉันมักจะตื่นขึ้นมาด้วยความกระตือรือร้นที่จะเริ่มชีวิตไม่ว่าฉันจะอยู่ที่ใดก็ตาม					
31	บ่อยครั้งฉันไม่ค่อยรู้ใจของฉันจริงๆ					
32	ฉันเคารพกฎเกณฑ์เพราะกฎเกณฑ์ชี้แนวทางให้ฉัน					
33	ฉันชอบสถานการณ์ที่ไม่มีความแน่นอนหรือไม่สามารถคาดการณ์ได้					
34	ฉันไม่สามารถทำอะไรได้มากนักที่จะป้องกัน หากมีใครมาทำร้ายฉัน					
35	คนที่ทำดีที่สุดควรได้รับการสนับสนุนจากสังคม					
36	การเปลี่ยนแปลงในชีวิตประจำวันเป็นสิ่งที่น่าสนใจสำหรับฉัน					
37	คนที่เชื่อในความเป็นตัวของตัวเองเป็นเพียงแค่การหลอกหลวงตนเองอยู่					

		ไม่เห็นด้วยอย่างยิ่ง 1	ไม่เห็นด้วย 2	เฉยๆ 3	เห็นด้วย 4	เห็นด้วยอย่างยิ่ง 5
38	ฉันจะไม่ใช้หลักการที่ไม่สอดคล้องกับความจริงอย่างชัดเจน					
39	ส่วนมากชีวิตเป็นสิ่งที่น่าสนใจและน่าตื่นเต้นในการทำงาน					
40	ฉันมั่นใจว่ามีคนดูแลฉันในยามชรา					
41	ยากที่จะคิดว่าจะมีใครสักคนที่มีความรู้สึกตื่นเต้นในการทำงาน					
42	สิ่งที่จะเกิดขึ้นกับฉันในวันพรุ่งนี้ ขึ้นอยู่กับสิ่งที่ฉันทำในวันนี้					
43	ถ้ามีใครสักคนโกรธฉันมักจะไม่ใช่เพราะความผิดของฉัน					
44	เป็นสิ่งที่ยากที่เชื่อเมื่อบุคคลบอกว่างานของตนเองเป็นการช่วยเหลือสังคม					
45	งานที่เรียบง่ายเป็นสิ่งที่น่าเบื่อหน่ายเกินกว่าที่จะสมควรทำ					

Appendix D: Private Bangkok Hospital Categorized according to number of beds

Beds	No.	Hospital
More than 500 beds	1.	Bumrungrad
	2.	Phayathai 2
	3	Krasemrad Bangkae Hospital.
450-499 beds	1.	Thonburi
	2.	Hua-Chiew
400–449 beds	1.	Vibhavadi
	2.	Bangmod
	3.	Chaopaya
	4.	Vejthani
	5.	Yanhee
	6.	Bangkok Christian
	7.	Samitivej (Srinakarin)
	8.	Bangkok
350–399 beds	1.	Thainakarin
	2.	Phayathai 1
300–349 beds	1.	Ramkumheang
	2.	Kasemrad Prachachuen
	3.	Paolo
	4.	Phayathai 3
	5.	Saint Louis
250–299 beds	1.	Bangprakok
	2.	Samitivej (Sukhumvit)

200-249 beds	1.	Mayo
	2.	Mission
	3.	Krungthon1
	4.	Central General
	5.	Mahaesak
	6.	Vichaiyut (North)
	7.	Kluaynamthai
	8.	Ladprao
	9.	Srivichai 2
	10.	Petcharavej
	11.	Bangkok 9 International
150–199 beds	1.	Nakornthon
	2.	Sikarin
	3.	Navamin
	4.	Rajburana
	5.	Camillian
	6.	Viparam
	7.	Praram 9
100–149 beds	1.	Phaetphanya
	2.	Synphaet
	3.	Kluanynamthai 1
	4.	Bangna 1
	5.	Srisiam
	6.	Vichaiyut

	17.	Bangkok Care Medical Center
	18.	Mongkutwattana
	19.	Piyavate***
Less than 99 beds		45 Hospitals – health cares

*** Piyavate Hospital-used in this study.

Sources: www.moph.go.th

Remark: Theses hospitals were not included because these are mostly small health care center for check up.

There are 106 private hospitals (15,558 beds) in Metropolitan Bangkok (Medical Registration Division; Department of Health Service Support, Ministry of public Health, 2005). Data were collected by measuring the number of beds at each hospital. They were sorted in the order of 10 intervals, as follow:

Appendix E: Addenda on Questionnaires, Sub-scales and Scoring details Nursing Stress Scale

The seven subscales included dealing with death and dying, conflict with physicians, conflict with other nurse, inadequate preparation, lack of support, workload, and uncertainty concerning treatment. Participants were asked to indicate their responses using a 5-point Likert scale (1=Never; 2=Seldom; 3=Yes, occasionally; 4=yes, often; and 5=yes, always).

To facilitating the scoring of the questionnaire, the items and directions were arranged, following the guidelines of the instrument originators, according to the following subscales:

Factor I: Dealing with Death and Dying

1. Performing procedures that a patient experiences as painful
8. Feeling helpless in the case of a patient who fails to improve
15. Listening or talking to a patient about his/her approaching death
21. In the death situation of a patient
26. The death of a patient with whom you developed a close relationship
29. Watching a patient suffer

Factor II: Conflict with Physicians

2. Criticism by a physician
9. Conflict with a physician
16. Fear of making a mistake in treating a patient
22. Disagreement concerning the treatment of a patient
27. Making a decision concerning a patient when the physician is unavailable

Factor III: Inadequate preparation to deal with the emotional needs of patients and their families.

3. Being asked a question by a patient for which I do not have a satisfactory answer

10. Feeling inadequately prepared to help with the emotional needs of a patient

Factor IV: Lack of staff support

4. Lack of an opportunity to talk openly with other unit personnel about problems on the unit

10. Lack of an opportunity to share experience and feeling with other personnel on the unit

17. Lack of an opportunity to express to other personnel on the negative feeling toward patients

Factor V: Conflict with other nurses and supervisor

5. Conflict with a supervisor

12. Difficulty in working with a particular nurse (or nurse) outside the unit

18. Criticism by a supervisor

23. Difficulty in working with a particular nurse (or nurses) on the unit

Factor VI: Workload

6. Breakdown of computer

13. Unpredictable staffing and scheduling

19. Not enough time to provide emotional support to a patient

24. Not enough time to complete all of my nursing tasks

28. Not enough staff to adequately cover the unit

Factor VII: Uncertainty concerning treatment

7. Inadequate information from a physician regarding the medical condition a patient

14. A physician ordering what appears to be inappropriate treatment for a patient

20. Not knowing what a patient or a patient's family ought to be told about the Patient's condition and its treatment

25. Uncertainty regarding the operation and functioning of specialized equipment

The Hardiness Scale used a 4-point Likert type response format, with scores Ranging from 0 (Not at all true) to 3 (Completely true).

Scoring: The Hardiness Scale is scored by first reverse-scoring items 3-7, 9-12, 14, 16, 18, 20, 23, 24, 26, 29, 31, 32, 34, 35, 37, 38, 40, 41, and 43-45. Each subscale is then scored by summing the subscale items as follows:

- Commitment = 1+7+8+9+17+18+23+24+25+31+37+39+41+44+45
- Control = 2+3+4+10+11+13+14+19+22+26+28+29+34+42+43
- Challenge = 5+6+12+15+16+20+21+27+30+32+33+35+36+38+40

Appendix F1: Results of Testing of Normality for Research Hypothesis 1

			Mean	S.D.	Skewness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H1.1*	**Death and dying**	25 years and below	2.054	.701	.899	.520	.933	91	.000
		26 - 35 years	2.102	.800	.729	-.090	.939	57	.007
		36 years and above	2.283	.667	.721	-.205	.914	13	.211
H1.2*	**Conflict with physicians**	25 years and below	1.762	.496	.639	-.008	.946	91	.001
		26 - 35 years	1.978	.535	-.213	-.621	.960	57	.058
		36 years and above	1.953	.633	.399	-1.018	.926	13	.306
H1.3*	**Inadequate preparation**	25 years and below	1.901	.637	.775	1.040	.903	91	.000
		26 - 35 years	1.815	.571	.332	-.801	.897	57	.000
		36 years and above	1.807	.630	.283	-.619	.924	13	.285
H1.4*	**Lack of support**	25 years and below	1.966	.873	1.191	1.788	.886	91	.000
		26 - 35 years	1.952	.726	.248	-.813	.917	57	.001
		36 years and above	2.126	.687	-.008	-.666	.943	13	.499
H1.5*	**Conflict with other nurses**	25 years and below	1.788	.598	.510	-.172	.936	91	.000
		26 - 35 years	2.074	.536	.147	-.182	.973	57	.238
		36 years and above	1.942	.521	.491	.819	.939	13	.440
H1.6*	**Workload**	25 years and below	2.257	.630	.055	-.654	.971	91	.043
		26 - 35 years	2.421	.628	-.351	-.696	.959	57	.053
		36 years and above	2.415	.574	-.016	-.736	.936	13	.410
H1.7*	**Uncertainty concerning treatment**	25 years and below	1.958	.516	.743	.784	.945	91	.001
		26 - 35 years	1.991	.572	-.029	-.327	.958	57	.044
		36 years and above	1.961	.351	.319	-1.304	.882	13	.076
H1.8**	**Nursing Stress Scale**	25 years and below	1.969	.471	.454	.020	.980	91	.167
		26 - 35 years	2.081	.478	-.291	-.536	.973	57	.234
		36 years and above	2.109	.410	-.696	-.767	.905	13	.159

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F2: Results of Testing of Normality for Research Hypothesis 2

			Mean	S.D.	Skewness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H2.1*	**Death and dying**	Single	2.103	.738	.739	-.081	.942	134	.000
		Married	2.035	.751	1.107	1.804	.920	24	.057
		Divorced / Separated	1.943	.417	-.599	.	.986	3	.775
H2.2*	**Conflict with physicians**	Single	1.859	.537	.338	-.624	.960	134	.001
		Married	1.783	.500	.394	-.297	.952	24	.297
		Divorced / Separated	2.200	.200	.000	.	1.000	3	1.000
H2.3*	**Inadequate preparation**	Single	1.854	.615	.795	.831	.896	134	.000
		Married	1.916	.601	-.305	-.936	.884	24	.010
		Divorced / Separated	1.833	.763	-.935	.	.964	3	.637
H2.4*	**Lack of support**	Single	2.009	.827	.915	1.200	.913	134	.000
		Married	1.776	.677	.347	-.792	.873	24	.006
		Divorced / Separated	2.000	.882	1.447	.	.895	3	.370
H2.5*	**Conflict with other nurses**	Single	1.880	.587	.371	-.208	.953	134	.000
		Married	1.989	.578	-.014	-.706	.960	24	.433
		Divorced / Separated	2.166	.520	1.293	.	.923	3	.463
H2.6*	**Workload**	Single	2.331	.638	-.070	-.797	.970	134	.005
		Married	2.316	.574	-.286	-.274	.959	24	.426
		Divorced / Separated	2.266	.757	-1.597	.	.855	3	.253
H2.7*	**Uncertainty concerning treatment**	Single	1.985	.518	.482	.314	.962	134	.001
		Married	1.895	.580	.146	.006	.948	24	.241
		Divorced / Separated	1.916	.381	-.935	.	.964	3	.637
H2.8**	**Nursing Stress Scale**	Single	2.027	.473	.147	-.467	.988	134	.282
		Married	1.979	.488	-.040	-.376	.961	24	.463
		Divorced / Separated	2.070	.157	-.828	.	.973	3	.683

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F3: Results of Testing of Normality for Research Hypothesis 3

			Mean	S.D.	Skewness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H3.1*	**Death and dying**	Under graduate	1.807	.537	.625	.001	.950	77	.004
		Bachelor's Degree	2.377	.796	.489	-.622	.952	80	.005
		Master's Degree	1.790	.566	-1.199	1.965	.924	4	.558
H3.2*	**Conflict with physicians**	Under graduate	1.576	.372	.538	.240	.940	77	.001
		Bachelor's Degree	2.137	.519	-.344	-.255	.967	80	.035
		Master's Degree	1.550	.251	-1.129	2.227	.895	4	.406
H3.3*	**Inadequate preparation**	Under graduate	1.759	.547	.072	-1.066	.889	77	.000
		Bachelor's Degree	1.981	.658	.788	.597	.897	80	.000
		Master's Degree	1.500	.408	.000	1.500	.945	4	.683
H3.4*	**Lack of support**	Under graduate	1.770	.731	1.146	2.061	.876	77	.000
		Bachelor's Degree	2.174	.845	.693	.880	.935	80	.001
		Master's Degree	1.915	.498	-.386	-3.813	.851	4	.229
H3.5*	**Conflict with other nurses**	Under graduate	1.756	.582	.616	-.085	.937	77	.001
		Bachelor's Degree	2.056	.555	.085	-.060	.967	80	.036
		Master's Degree	1.625	.433	-1.540	2.889	.840	4	.195
H3.6*	**Workload**	Under graduate	2.150	.611	.084	-.717	.970	77	.069
		Bachelor's Degree	2.507	.604	-.324	-.568	.962	80	.017
		Master's Degree	2.150	.412	.200	-4.858	.827	4	.161
H3.7*	**Uncertainty concerning treatment**	Under graduate	1.850	.495	.502	.651	.957	77	.010
		Bachelor's Degree	2.093	.523	.282	.356	.963	80	.022
		Master's Degree	1.812	.625	2.000	4.000	.630	4	.001
H3.8**	**Nursing Stress Scale**	Under graduate	1.818	.403	.162	-.531	.985	77	.518
		Bachelor's Degree	2.227	.449	-.160	-.088	.988	80	.645
		Master's Degree	1.785	.333	-.156	-.327	.998	4	.995

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F4: Results of Testing of Normality for Research Hypothesis 4

			Mean	S.D.	Skewness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H4.1*	Death and dying	Assistant Nurse	1.842	.562	.797	.427	.941	75	.002
		General Nurse	2.278	.723	.545	-.324	.954	52	.045
		Specialized Nurse	2.611	.856	.429	-.885	.932	24	.110
		Head Nurse / Ward	2.168	.772	-.064	-.703	.981	5	.941
		Other	1.268	.303	.566	-2.199	.869	5	.262
H4.2*	Conflict with physicians	Assistant Nurse	1.576	.386	.591	.357	.937	75	.001
		General Nurse	2.115	.441	-.561	.136	.946	52	.019
		Specialized Nurse	2.175	.638	-.103	-.969	.950	24	.265
		Head Nurse / Ward	2.200	.424	.524	-.963	.910	5	.468
		Other	1.440	.328	1.736	3.251	.779	5	.054
H4.3*	Inadequate preparation	Assistant Nurse	1.780	.564	.136	-.993	.897	75	.000
		General Nurse	1.942	.599	.372	-1.021	.870	52	.000
		Specialized Nurse	2.062	.756	1.332	2.124	.839	24	.001
		Head Nurse / Ward	1.700	.570	.405	-.178	.961	5	.814
		Other	1.500	.500	.000	-3.000	.821	5	.119
H4.4*	Lack of support	Assistant Nurse	1.795	.722	1.161	2.251	.884	75	.000
		General Nurse	2.198	.827	.700	1.154	.939	52	.011
		Specialized Nurse	2.207	.926	.601	.522	.929	24	.092
		Head Nurse / Ward	1.866	.556	-1.102	.588	.880	5	.309
		Other	1.332	.575	1.929	3.687	.700	5	.010
H4.5*	Conflict with other nurses	Assistant Nurse	1.760	.576	.597	-.116	.939	75	.001
		General Nurse	1.947	.543	.176	.049	.962	52	.097
		Specialized Nurse	2.177	.587	-.078	.396	.970	24	.675
		Head Nurse / Ward	2.250	.586	.581	-2.628	.836	5	.154
		Other	1.900	.627	-.196	1.504	.950	5	.740
H4.6**	Workload	Assistant Nurse	2.168	.616	.115	-.764	.968	75	.053
		General Nurse	2.526	.561	-.096	-.781	.963	52	.101
		Specialized Nurse	2.458	.650	-.467	-.272	.957	24	.379
		Head Nurse / Ward	2.400	.489	.170	-1.750	.925	5	.563
		Other	1.960	.864	.597	-.516	.970	5	.875
H4.7*	Uncertainty concerning treatment	Assistant Nurse	1.860	.470	.632	1.163	.950	75	.005
		General Nurse	2.096	.531	-.108	.063	.964	52	.113
		Specialized Nurse	2.093	.598	.823	.025	.921	24	.063
		Head Nurse / Ward	2.200	.325	-.541	-1.488	.902	5	.421
		Other	1.500	.500	.000	-3.000	.821	5	.119
H4.8**	Nursing Stress Scale	Assistant Nurse	1.834	.396	.218	-.494	.983	75	.416
		General Nurse	2.191	.429	-.361	-.049	.979	52	.479
		Specialized Nurse	2.299	.511	-.016	-.376	.980	24	.888
		Head Nurse / Ward	2.166	.325	-.368	1.340	.972	5	.885
		Other	1.558	.430	.142	-1.923	.914	5	.493

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F5: Results of Testing of Normality for Research Hypothesis 5

			Mean	S.D.	Skewness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H5.1*	Death and dying	4 years and below	2.062	.697	.748	.211	.949	114	.000
		5 -10 years	2.006	.820	1.306	1.053	.857	26	.002
		11 - 15 years	2.271	.794	.484	.254	.961	16	.686
		16 years and above	2.568	.856	.174	-1.173	.967	5	.853
H5.2*	Conflict with physicians	4 years and below	1.807	.527	.415	-.550	.954	114	.001
		5 -10 years	2.000	.434	.101	-.661	.964	26	.481
		11 - 15 years	1.800	.593	.455	-.142	.941	16	.362
		16 years and above	2.360	.554	-.009	-2.704	.876	5	.292
H5.3*	Inadequate preparation	4 years and below	1.912	.621	.706	.767	.905	114	.000
		5 -10 years	1.692	.567	.577	-.413	.888	26	.008
		11 - 15 years	1.843	.625	-.021	-.834	.900	16	.080
		16 years and above	1.700	.570	.405	-.178	.961	5	.814
H5.4*	Lack of support	4 years and below	1.938	.856	1.091	1.506	.889	114	.000
		5 -10 years	2.076	.687	.400	-.614	.933	26	.090
		11 - 15 years	1.999	.677	-.055	-.479	.931	16	.250
		16 years and above	2.198	.729	-1.283	2.901	.829	5	.137
H5.5*	Conflict with other nurses	4 years and below	1.837	.616	.439	-.304	.939	114	.000
		5 -10 years	2.057	.443	.321	-1.274	.890	26	.009
		11 - 15 years	2.015	.512	.330	.254	.914	16	.135
		16 years and above	2.200	.480	1.517	2.608	.859	5	.223
H5.6*	Workload	4 years and below	2.301	.648	-.109	-.821	.967	114	.006
		5 -10 years	2.392	.546	-.071	-.843	.961	26	.410
		11 - 15 years	2.337	.652	.121	-.636	.933	16	.268
		16 years and above	2.560	.536	1.258	.313	.771	5	.046
H5.7*	Uncertainty concerning treatment	4 years and below	1.973	.558	.555	.188	.955	114	.001
		5 -10 years	1.990	.449	-.652	.070	.930	26	.078
		11 - 15 years	1.890	.446	-.277	-.479	.947	16	.443
		16 years and above	2.050	.325	.541	-1.488	.902	5	.421
H5.8**	Nursing Stress Scale	4 years and below	1.993	.492	.242	-.426	.987	114	.328
		5 -10 years	2.062	.414	.288	-.021	.973	26	.690
		11 - 15 years	2.056	.440	-.719	-.625	.910	16	.116
		16 years and above	2.310	.241	.478	-3.094	.805	5	.089

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F6: Results of Testing of Normality for Research Hypothesis 6

			Mean	S.D.	Skew-ness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H6.1**	Commitment	25 years and below	3.336	.323	-.230	-.140	.986	91	.452
		26 - 35 years	3.434	.359	.062	-.011	.989	57	.874
		36 years and above	3.594	.317	-.114	-1.281	.951	13	.615
H6.2**	Control	25 years and below	3.432	.269	-.037	-.315	.989	91	.672
		26 - 35 years	3.600	.298	.096	.366	.980	57	.463
		36 years and above	3.585	.384	-.093	-.826	.981	13	.986
H6.3*	Challenge	25 years and below	2.942	.208	.351	-.199	.974	91	.069
		26 - 35 years	2.886	.242	.689	1.556	.957	57	.042
		36 years and above	2.856	.236	.199	.034	.980	13	.978
H6.4**	Hardiness Scale	25 years and below	3.236	.174	-.110	.350	.989	91	.664
		26 - 35 years	3.307	.205	.067	.819	.979	57	.427
		36 years and above	3.345	.247	.477	-.626	.956	13	.684

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F7: Results of Testing of Normality for Research Hypothesis 7

			Mean	S.D	Skew-ness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H7.1**	Commitment	Single	3.379	.341	-.170	-.199	.990	134	.454
		Married	3.454	.353	.480	.352	.962	24	.476
		Divorced / Separated	3.446	.368	1.662	.	.827	3	.182
H7.2**	Control	Single	3.489	.300	.064	-.182	.991	134	.512
		Married	3.544	.290	.700	1.258	.946	24	.222
		Divorced / Separated	3.823	.215	1.583	.	.860	3	.266
H7.3*	Challenge	Single	2.927	.219	.546	.685	.974	134	.010
		Married	2.849	.244	.065	-.458	.973	24	.733
		Divorced / Separated	2.933	.230	1.732	.	.750	3	.000
H7.4*	Hardiness Scale	Single	3.265	.189	-.075	.184	.991	134	.59
		Married	3.283	.227	1.066	1.882	.904	24	.0
		Divorced / Separated	3.400	.190	.467	.	.992	3	.826

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F8: Results of Testing of Normality for Research Hypothesis 8

			Mean	S.D	Skew-ness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H8.1**	**Commitment**	Under graduate	3.336	.311	.152	-.015	.983	77	.37
		Bachelor's Degree	3.427	.352	-.473	-.068	.973	80	.086
		Master's Degree	3.732	.523	.208	-3.518	.934	4	.616
H8.2**	**Control**	Under graduate	3.395	.256	.121	.107	.989	77	.738
		Bachelor's Degree	3.588	.297	-.209	.058	.982	80	.305
		Master's Degree	3.915	.322	.683	-1.020	.955	4	.747
H8.3**	**Challenge**	Under graduate	2.923	.223	.606	1.296	.969	77	.054
		Bachelor's Degree	2.904	.227	.265	-.151	.983	80	.350
		Master's Degree	2.982	.201	1.423	2.676	.859	4	.256
H8.4*	**Hardiness Scale**	Under graduate	3.218	.168	.581	1.589	.968	77	.049
		Bachelor's Degree	3.307	.195	-.552	.518	.971	80	.067
		Master's Degree	3.547	.312	.103	-5.370	.823	4	.150

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F9: Results of Testing of Normality for Research Hypothesis 9

			Mean	S.D	Skew-ness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H9.1**	**Commitment**	Assistant Nurse	3.322	.300	.092	-.001	.982	75	.375
		General Nurse	3.386	.300	-.402	.666	.973	52	.272
		Specialized Nurse	3.449	.456	-.444	-.913	.939	24	.153
		Head Nurse / Ward	3.774	.214	-.094	1.654	.943	5	.684
		Other	3.824	.321	1.172	.894	.906	5	.442
H9.2**	**Control**	Assistant Nurse	3.398	.261	.071	-.195	.987	75	.653
		General Nurse	3.570	.299	.084	.016	.989	52	.914
		Specialized Nurse	3.636	.274	-.612	1.213	.944	24	.203
		Head Nurse / Ward	3.572	.446	-.655	-.477	.954	5	.764
		Other	3.704	.369	1.710	3.018	.814	5	.105
H9.3*	**Challenge**	Assistant Nurse	2.927	.215	.702	1.612	.964	75	.032
		General Nurse	2.890	.213	-.119	-.045	.981	52	.554
		Specialized Nurse	2.941	.242	.888	-.269	.890	24	.013
		Head Nurse / Ward	2.972	.333	-.472	-1.821	.938	5	.653
		Other	2.826	.297	.663	.856	.953	5	.756
H9.4*	**Hardiness Scale**	Assistant Nurse	3.215	.160	.088	.063	.987	75	.621
		General Nurse	3.282	.164	-.685	1.230	.948	52	.024
		Specialized Nurse	3.343	.251	-.431	.069	.955	24	.340
		Head Nurse / Ward	3.440	.318	-.545	.071	.972	5	.887
		Other	3.452	.265	1.141	.908	.893	5	.371

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F10: Results of Testing of Normality for Research Hypothesis 10

			Mean	S.D	Skew-ness	Kurtosis	Shapiro-Wilk		
							Statistic	df	Sig.
H10.1**	**Commitment**	4 years and below	3.337	.333	-.227	-.276	.986	114	.290
		5 -10 years	3.507	.355	.625	-.075	.947	26	.199
		11 - 15 years	3.486	.282	-.347	-.916	.940	16	.349
		16 years and above	3.708	.361	-.726	-1.369	.911	5	.476
H10.2**	**Control**	4 years and below	3.446	.282	.129	.088	.989	114	.510
		5 -10 years	3.661	.270	.563	.364	.960	26	.396
		11 - 15 years	3.575	.269	-.369	-.541	.962	16	.691
		16 years and above	3.774	.497	-1.679	3.155	.834	5	.149
H10.3*	**Challenge**	4 years and below	2.924	.224	.598	.823	.970	114	.012
		5 -10 years	2.892	.222	-.293	-.373	.972	26	.682
		11 - 15 years	2.870	.209	.509	.785	.960	16	.662
		16 years and above	2.986	.310	-.638	.001	.969	5	.869
H10.4*	**Hardiness Scale**	4 years and below	3.236	.181	-.229	.106	.986	114	.291
		5 -10 years	3.354	.198	1.180	.715	.878	26	.005
		11 - 15 years	3.311	.161	-.150	-.364	.979	16	.957
		16 years and above	3.488	.320	-1.139	1.381	.922	5	.546

* Normality can NOT be assumed due to one or more p-values of Shapiro-Wilk tests are less than .05 (p <.05).

** Normality can BE assumed due to all p-values of Shapiro-Wilk tests are greater than .05 (p <.05).

Appendix F11: **Results of Test of Homogeneity of Variances for One-Way ANOVA Tests**

Hypothesis	Independent variable	Dependent variable	Test of Homogeneity of Variances			
			Levene Statistic	df1	df2	Sig.
H1.8*	Age	Nursing Stress Scale	.178	2	158	.837
H2.8*	Marital status	Nursing Stress Scale	1.569	2	158	.212
H3.8*	Education level	Nursing Stress Scale	.331	2	158	.719
H4.6*	Job position	Workload	.594	4	156	.668
H4.8*	Job position	Nursing Stress Scale	.737	4	156	.568
H5.8*	Length of Nursing Experience	Nursing Stress Scale	1.322	3	157	.269
H6.1*	Age	Commitment	.678	2	158	.509
H6.2*	Age	Control	1.726	2	158	.181
H6.4*	Age	Hardiness Scale	1.744	2	158	.178
H7.1*	Marital status	Commitment	.020	2	158	.980
H7.2*	Marital status	Control	.570	2	158	.567
H8.1*	Educational level	Commitment	2.078	2	158	.129
H8.2*	Educational level	Control	.878	2	158	.418
H8.3*	Educational level	Challenge	.165	2	158	.848
H9.1**	Job position	Commitment	3.820	4	156	.005
H9.2*	Job position	Control	1.145	4	156	.337
H10.1*	Length of Nursing Experience	Commitment	.276	3	157	.843
H10.2*	Length of Nursing Experience	Control	.873	3	157	.456

* Homogeneity of variances can be assumed due to *p*-values are greater .05 ($p > .05$).

** Homogeneity of variances can NOT be assumed due to *p*-value is less than .05 ($p < .05$).

Appendix 12: Results of Test of Normality for Research Hypothesis 11

						Shapiro-Wilk		
		Mean	S.D.	Skewness	Kurtosis	Statistic	df	Sig.
H11**	Nursing Stress Scale	2.0207	.47038	.111	-.428	.990	161	.326
	Hardiness Scale	3.2707	.19534	.174	.578	.988	161	.199

** Normality can BE assumed due to all *p*-values of Shapiro-Wilk tests are greater than .05 ($p < .05$).