SPIRITUAL INTELLIGENCE AND JOB PERFORMANCE OF NURSES IN TERTIARY HOSPITALS OF HONGHE, YUNNAN PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA

GAO LI

MASTER OF NURSING SCIENCE

GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
JULY 2019

SPIRITUAL INTELLIGENCE AND JOB PERFORMANCE OF NURSES IN TERTIARY HOSPITALS OF HONGHE, YUNNAN PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA

GAO LI

A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF NURSING SCIENCE

GRADUATE SCHOOL, CHIANG MAI UNIVERSITY

JULY 2019

SPIRITUAL INTELLIGENCE AND JOB PERFORMANCE OF NURSES IN TERTIARY HOSPITALS OF HONGHE, YUNNAN PROVINCE, THE PEOPLE'S REPUBLIC OF CHINA

GAO LI

THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF
THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF NURSING SCIENCE

Examination Committee:

..... Chairperson
(Asst. Prof. Dr. Kulwadee Abhicharttibutra)

..... Member
(Assoc. Prof. Dr. Kannika Kantaruksa)

..... Member
(Prof. Dr. Wipada Kunaviktikul)

..... Member
(Asst. Prof. Dr. Orn-Anong Wichaikhum)

Advisory Committee:

..... Advisor
(Prof. Dr. Wipada Kunaviktikul)

..... Co-advisor
(Asst. Prof. Dr. Orn-Anong Wichaikhum)

31 July 2019

ACKNOWLEDGEMENT

I would like to take this opportunity to express my sincere appreciation to individuals and organizations for their help and support during my study at Chiang Mai University. These supports allowed my research successfully completed.

Firstly, I would like to express my great thanks and high regard to my major advisor, Professor Dr. Wipada Kunaviktikul, Dean of the faculty of nursing. For her scholarly guidance, extraordinary help and encouragement throughout my study. Equally, I would like to express my deeply appreciation to my co-advisor, Assistant. Professor. Dr. Orn-Anong Wichaikhun for her intelligent suggestions, since help and guidance. Without their support, the completion of my thesis would never have been possible.

Secondly, I would like to express my appreciation to my examination committee chairperson and members: Assistant Professor Dr. Kulwadee Abhicharttibutra, Associate Professor Dr. Kannika Kantaruksa, Professor Dr. Wipada Kunaviktikul, and Assistant Professor Dr. Orn-anong Wichaikhum for their insightful recommendations, incredible assistance and encouragement.

I would also like to acknowledge Professor Dr. David King and Professor Dr Teresa L. DeCicco, and Professor Dr. Jaimi H. Greenslade for their expertise and academic support as well as allowing me to use their research instruments. I am also very grateful to Professor Dr. Constance A. Mara for helping me to get in touch with Professor Dr. David King and Professor Dr. Teresa L. DeCicco, which enabled me to successfully use the instrument. I am very thankful to Lin Ke for the permission to use the research instrument that she translated into Chinese. I wish to extent my heartfelt thanks to Mrs. Zhu Xiaolin and Ms. Ruth Leatherman, for their enthusiastic help for back-translation of the instruments and confirming the equivalent of the translated English version and the original English version. I also would like to thank my teacher Ms. Rujee Rattanasathien, who worked as a deputy head nurses in stroke unit, helped me to translate English version of abstract into Thai.

Furthermore, I would like to appreciate the directors of nursing departments. Mrs. Zhang Lihong who working in the First People's Hospital of Honghe State, Mrs. Ni Zhongmei who working in the Third Peoples Hospital of Honghe State, and Mrs. Guan Xueyan who working in the People's Hospital of Gejiu City for their permission to collect data and mobilize the head nurses to kindly assist in these three hospitals. Special thanks to the coordinators who helped me in data collection process and all subjects for their willing to participate in this study.

Additionally, many thanks need to be given to Professor Tang Pingfen, for her effort for us and providing convenient access to this education program and constant encouragement during duration of study. I am deeply grateful to the Faculty of Nursing, Chiang Mai University, for providing such a precious opportunity for me. Sincere thanks go to all teachers and staff members at Faculty of Nursing, Chiang Mai University, for their enthusiastic help throughout these two years. Also, much thanks to the Graduate School, Chiang Mai University, for a grant in partial support of this study. Besides, I would like to thank all my classmates that gave me help and encouragement during my time here.

My genuine and deep gratitude is given to the leaders of the first people's Hospital of Honghe, which is my workplace, for their attention to the development of nursing profession in my hospital, and providing me opportunity and financial support to study. Special appreciation is also extended to the director of the Nursing Department of my hospital, Mrs. Zhang Lihong, for her comprehensive support and encouragement.

Lastly, I would like to express my deepest appreciation to my beloved family, who gave me unlimited love, unconditional support and constantly inspired me to overcome difficulties so that I can finish all my work during these past two years.

Gao Li

Thesis Title	Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China
Author	Miss Gao Li
Degree	Master of Nursing Science
Advisory Committee	Professor Dr. Wipada Kunaviktikul — Advisor Assistant Professor Dr. Orn-Anong Wichaikhum — Co-advisor

ABSTRACT

Job performance is a vital indicator of quality of nursing care. The purpose of this descriptive correlational study was to explore the spiritual intelligence and job performance of nurses in the tertiary hospitals in Honghe, Yunnan province, the People's Republic of China, and to examine the relationship between spiritual intelligence and each component of job performance. The sample included 334 nurses from three tertiary hospitals. Research instruments consisted of three parts: 1) the Demographic data form developed by the researcher; 2) the Spiritual Intelligence Self-Report Inventory (SISRI-24) developed by King and DeCicco (2009) and translated into Chinese by the researcher; and 3) the Chinese Version of the shortened job performance scale (SJPS) developed by Greenslade (2008) and translated into Chinese by Lin (2012). The Cronbach's alpha coefficient of SISRI-24 was .95, and the two subscales of the Chinese Version of the SJPS were both .92. Data were analyzed by using descriptive statistics and Pearson-Product-moment.

The results of this study showed that total spiritual intelligence and the two components of job performance of task performance and contextual performance were at a moderate level. There was a moderate positive relationship between spiritual intelligence and task performance and contextual performance.

These findings provide information for hospital administrators and nurse administrators to develop effective ways to improve the spiritual intelligence and job performance of nurses, and thus could enable nurses implement high performance and improve quality of care.

หัวข้อวิทยานิพนธ์ ความฉลาดทางจิตวิญญาณและการปฏิบัติงานของพยาบาลในโรงพยาบาลระดับตติยภูมิของหงเหอ มณฑลยูนนาน สาธารณรัฐประชาชนจีน

ผู้เขียน นางสาวเกา ลี

ปริญญา พยาบาลศาสตรมหาบัณฑิต

คณะกรรมการที่ปรึกษา ศาสตราจารย์ ดร.วิภาดา คุณาวิกติกุล อาจารย์ที่ปรึกษาหลัก
ผู้ช่วยศาสตราจารย์ ดร.อรอนงค์ วิชัยคำ อาจารย์ที่ปรึกษาร่วม

บทคัดย่อ

ผลการปฏิบัติงานของบุคลากรเป็นตัวชี้วัดสำคัญในการพัฒนาคุณภาพการพยาบาล วัตถุประสงค์ของศึกษานี้ เพื่อสำรวจความฉลาดทางจิตวิญญาณและผลการปฏิบัติของพยาบาลในโรงพยาบาลระดับตติยภูมิในเขตหงเหอ มณฑลยูนนาน สาธารณรัฐประชาชนจีน และศึกษาความสัมพันธ์ระหว่างความฉลาดทางจิตวิญญาณและแต่ละองค์ประกอบของผลการปฏิบัติงานของพยาบาล กลุ่มตัวอย่างเป็นพยาบาลจำนวน 334 รายที่ทำงานในโรงพยาบาลตติยภูมิ 3 แห่ง เครื่องมือที่ใช้ประกอบด้วย 3 ส่วนคือ 1) แบบรวบรวมข้อมูลส่วนบุคคลที่พัฒนาโดยผู้วิจัย 2) แบบวัดความฉลาดทางด้านจิตวิญญาณ ที่พัฒนาโดย คิง และเดอซิคโค (2009) และแปลเป็นภาษาจีนโดยผู้วิจัย มีค่าสัมประสิทธิ์อัลฟาของครอนบาร์ค เท่ากับ .95 3) แบบสอบถามผลการดำเนินงานแบบสั้นฉบับภาษาจีน ที่พัฒนาโดย กรีนสเลด (2008) และแปลเป็นภาษาจีนโดย ลิน (2012) มีค่าสัมประสิทธิ์อัลฟาของครอนบาร์ค เท่ากับ .92 ทั้งสององค์ประกอบวิเคราะห์ข้อมูลโดยใช้สถิติพรรณนาและสหสัมพันธ์แบบเพียร์สัน

ผลการศึกษาพบว่าคะแนนรวมความฉลาดทางด้านจิตวิญญาณและผลการปฏิบัติงานของพยาบาลทั้งด้านเนื้องานและผลการปฏิบัติงานในเชิงบริบท อยู่ในระดับปานกลาง และพบว่าความฉลาดทางด้านจิตวิญญาณมีความสัมพันธ์ทางบวกในระดับปานกลางกับผลการปฏิบัติงานทางด้านเนื้องาน และในเชิงบริบท

ผลจากการศึกษาครั้งนี้นำไปเป็นข้อมูลเพื่อให้ผู้บริหารโรงพยาบาล และผู้บริหารทางการพยาบาล ใช้เป็นแนวทางในการพัฒนาความฉลาดทางด้านจิตวิญญาณ และด้านปฏิบัติงานที่มีประสิทธิผล เพื่อให้พยาบาลปฏิบัติงานได้ผลดีเยี่ยม และช่วยในการปรับปรุงคุณภาพการดูแล

CONTENTS

CONTENTS (continued)

CONTENTS (continued)

LIST OF TABLES

CHAPTER 1

Introduction

Background and Significance of the Research Problem

Providing the highest quality of nursing care is the main objective in health care system all over the world (Aiken et al., 2001). Many nursing administrators and leaders are devoting themselves to provide high-quality care by increasing the job performance of their employees (Kling, 1995). Nurses have a significant role in providing medical services (Bacaksiz, Tuna, & Seren, 2017), since they implement direct patient services (Hee & Kamaludin, 2016) and direct contact with patients everyday (Yu & Ko, 2017). Nurses' performances directly determine a patient's expectation and satisfaction (Yaacob et al., 2011), crucially affect the performance of health care organizations (Fritzen, 2007), and strongly relate to the quality of care provided (Hassmiller & Cozine, 2006). Thus, nurses' job performance is regarded as a vital indicator in the quality of care (Hjortdahl & Lxrum, 1992).

In China, high-quality medical competition between medical organizations is showing an increasingly intensive trend (Wang, 2011). With the progress of society, the continuous improvement of people's knowledge level and the enhancement of legal awareness keep on growing; furthermore, patients' awareness of the protection of their rights to medical treatment is gradually enhanced (Medical Education Net, 2008). Nursing work requirements are becoming more and more stringent (Xin Hua Net, 2017). During the hospitalization, patients are anxious to recover as soon as possible and their mental state turns more fragile, they need more care from nurses but some nurses lack professional ability and patience at work (Xin Hua Net, 2017). Thus, the tension between nurses and patients in the health care in China is very prominent (Zhang, 2014), since nurse-patient relationship directly affects nursing quality (Shi, 2013). Therefore, both nurse managers and nurses have the responsibility to mitigate the tensions between nurses and patients. Improving nurses' job performance is an effective way to increase the

professional ability of nurses and relieve the tensions between nurses and patient (Zhang, 2014). Moreover, increasing nurses' job performance could enhance the satisfaction of patients (Yaacob et al., 2011) and improve the quality of care (Lee & Ko, 2010).

Job performance is a crucial component in any profession; it is an essential indicator of productivity and profitability (Hee & Kamaludin, 2016). In the health care system, job performance is closely connected with the hospital's organizational effectiveness (Yu & Ko, 2017). If a nurse has a high job performance, it will enhance organizational profitability, build loyalty and reduce personnel costs (Earls, 2004). However, if a nurse's job performance decreases, it will result in unexpected consequences like some decreasing standards in patients' care, delays and negligent work, lateness and an increase in patients' complaints (Hee & Kamaludin, 2016), which may effects quality of care.

Job performance is the behavior that relates to the individual's job and the organization values (Bowman & Motowidlo, 1993). In the field of nursing, Greenslade and Jimmieson (2007), based on Bowman and Motowidlo's theory, (1993) defined the job performance as the behaviors performed by nurses that directly contribute to the organization's technical core or task performance which are generally considered part of the work of workers; and those behaviors keep the wide social environment or contextual performance in which the technical core must function which includes more discretionary behaviors that help the hospital function (Greenslade & Jimmieson, 2007).

Greenslade (2008) proposed a job performance model which includes task performance and contextual performance. Task performance refers to the level of proficiency of an incumbent to participate in activities that are formally recognized as part of their work, by directly carrying out some of its technical processes to contribute to the core technology of the organization. It includes: 1) social support which reflects the behaviors that nurses perform to meet the emotional needs of patients and their families, 2) information provision refers to the behaviors when nurses provide information and education to the patients and their families, 3) technical care refers to the behaviors that nurses perform towards meeting the physical needs of patients by serving and helping patients to address their needs and interests. Contextual performance refers to the behaviors that support the extended environment in which the technical core must function such as helping and cooperating with others, following organizational rules, and

supporting organizational goals. It contains: 1) interpersonal support which is the behaviors that help other team members, 2) job-task support refers to nursing activities going beyond job requirements to provide care for patients and their families, and 3) organizational support which reflects the behaviors implemented by nurses to support the organization.

After that, Greenslade (2008) developed the Shortened Job Performance Scale to measure nurses' job performance. At present, there were six previous studies that explored nurses' job performance by using this instrument. In the Maldives, Fathimath (2012) found that the level of task performance of nurses in tertiary care hospitals was at a high level, while the contextual performance was at a moderate level. Later, Jeeza, Hongkrailert, and Sillabutra (2015) illustrated that the level of task performance was at a high level but the level of contextual performance was at a moderate level in tertiary care hospital in Maldives. In China, Lin (2012) found that task performance and contextual performance of nurses were at a moderate level in tertiary hospitals in Yunnan province. After that, Tong (2018) found that the task performance and contextual performance were at a moderate level among nurses in northern China. Recently, Bai (2018) stated that the task performance was at a high level, while the contextual performance was at a moderate level among ICU nurses of tertiary hospitals in Kunming. Moreover, Kanyana, Abhicharttibutra, and Chitpakdee (2018) found that the task performance and contextual performance were at a high level in government university hospitals, Thailand. According to all these research results, job performance of nurses still needs to be improved in China. Moreover, results of task performance and contextual performance showed the inconsistency between different settings, the previous studies is concentrating on Kunming (Bai, 2018; Lin, 2012), but the job performance of nurses in Honghe is uncertain. Due to Kunming is the capital city of Yunnan province, the hospitals in Kunming are more developed and more advanced than other parts, nurses' job performance may higher than that of other place. Thus, to explore the job performance of nurses in tertiary hospitals of Honghe is needed.

Honghe established the nursing quality control center in 2016 to improve quality of care. (Hospital News, 2016). Since its establishment, the center has been attached to the first people's hospital of Honghe. It has been responsible for formulating nursing rules, organizing clinical quality inspection, and providing professional guidance and training

for nurses in the state. The first people's hospital of Honghe is one among several tertiary hospitals in Honghe. Tertiary hospitals of Honghe represent the highest level of medical care and have more responsibilities for quality improvement than other hospitals in Honghe. Thus, nurses working in the tertiary hospitals have more workload and work-related stress than others, and this may lead to a decrease in their job performance. Moreover, the tertiary hospitals of Honghe provide medical services for locals and outsiders as well as provide technical and information support to secondary and primary hospitals. Many patients whom the primary and secondary hospitals can not take care of, are referred to the tertiary hospitals. However, those referred patients are usually from minorities groups which have different languages and cultural beliefs (Zhou, 2014), this requires nurses in tertiary hospitals to have a high job performance to take care of these patients. In addition, in order to improve quality of care, the health care system of Honghe has implemented "high-quality care" policy since 2011, nurses are not only required to implement observing, recording, and providing treatment, but they also need to provide some extra task performance such as information support and emotional support to patients and their families. However, the high workload affects nurses provide sufficient task performance behaviors in Honghe. For example, in the first people's hospital of Honghe, each nurse in the day shift has to care for 10 patients on average, and there is only one nurse to take care of all patients in the whole department from 12:00pm-2:00pm and during night shifts, this means one nurse has to care for at least 30 patients during these times (personal communication, 2018). This heavy workload causes nurses hardly provide sufficient information support and seldom consider the emotional needs of patients and their families.

Greenslade and Jimmieson (2007) indicated that job-task support is an important sub-dimension of contextual performance, but nurses find it very difficult to provide extra support to patients in China because nursing is an occupation that is faced with the patient's health and life. Nurses must closely monitor the changes of patients' conditions at any time and make a correct judgment and give appropriate nursing care to prevent errors and accidents, otherwise they will bear corresponding legal responsibilities (Zhao, 2008). Thus, many nurses do not want to engender extra burden or potential risks to either themselves or others (Fan & Yang, 2008), they may not want to provide extra performance to patients. In Honghe, some nurses are not willing to take the additional

time to meet patients' need, because they think it increases their workload and may bring some extra risks (personal communication, 2018).

Based on the literature reviews, some factors affects job performance, such as organizational identification (Bacaksiz et al., 2017), emotional intelligence (Al-Hamdan, Oweidat, Al-Faouri, & Codier, 2017), and spiritual intelligence (Estanesti, 2016; Khandan, Eyni, & Koohpaei, 2017; Kimiyayi & Daryaee, 2016; Mahmood, Arshad, Ahmed, Akhtar, & Rafique, 2015). Among these factors, spiritual intelligence is one of the significant factor related to job performance (Estanesti, 2016; Khandan et al., 2017; Kimiyayi & Daryaee, 2016; Mahmood et al., 2015; Rani, Abidin, & Hamid, 2013) because spiritual intelligence helps the individual effectively cope with stressful environments (Moradnezhad, Seylani, Navab, & Esmaeilie, 2017) and resolve problems appropriately (Tabarsa & Jalaei, 2015). Nursing is regarded as a high-risk, high-stress profession (Luan, Wang, Hou, Chen, & Lou, 2017), spiritual intelligence helps nurses effectively adapt to stressful environments, which may help nurses improve job performance (Khandan et al., 2017).

Spiritual intelligence is a set of mental capacities which contribute to the awareness, integration, and adaptive application of the non-material and transcendent aspects of one's existence, leading to such outcomes as deep existential reflection, enhancement of meaning, recognition of a transcendent self, and mastery of spiritual states (King, 2008). It includes four components: 1) *Critical existential thinking* refers to the capacity to critically contemplate meaning, purpose, and other existential or metaphysical issues, such as reality, the universe, space, time, death. In this domain, the critical thinking ability is the ultimate ability to cognize existing problems. 2) *Personal meaning production* refers to ability to construct personal meaning and purpose in all physical and mental experiences, including the capacity to create and master a life purpose. 3) *Transcendental awareness* refers to the ability to perceive transcendent aspects of one self, of others and of the physical world during the normal, waking state of consciousness. 4) *Conscious state expansion* refers to the ability to enter spiritual states of consciousness such as pure consciousness, cosmic consciousness, oneness at one's own discretion (King & DeCicco, 2009).

Spiritual intelligence is regarded as advanced intelligence since it is the source of guidance and direction for other intelligences (Covey, 2005; Ronel, 2008), when it is improved, it will positively impact on the development of other intelligences and capabilities (Covey, 2005; Mackey & Sisodia, 2013; Ronel, 2008; Walsh, 1999; Wigglesworth, 2012; Wilber, 2007). If an individual has high spiritual intelligence, it will improve their effectiveness and performance (Luis Daniel, 2010), make them keep peace of heart (Kimiyayi & Daryaee, 2016) and enhance service quality (Javaheri, Safarnia, & Mollahosseini, 2013). In the nursing area, if a nurse had high spiritual intelligence, it will improve their clinical competency and quality of care (Karimi-Moonaghi et al., 2015) and help nurses meet patients' requirements (Khandan et al., 2017). When a nurse acquires high spiritual intelligence, it will increase nurses' job performance and improve their contribution to tasks at the workplace (Haryono, 2018).

Only four studies could be found that explored the spiritual intelligence among nurses by using different instruments. Two previous studies investigated nurses' spiritual intelligence by using Wolman's (2001) psycho-Matrix spirituality inventory (PSI). In Taiwan, Yang (2006) found that the level of spiritual intelligence of registered nurses was at a moderate level. In China, Yang and Mao (2007) found that the spiritual intelligence of registered hospital nurses was at a low level. Only two studies have been conducted to explore nurses' spiritual intelligence by using King and DeCicco's (2009) spiritual intelligence self-report inventory (SISRI). In Iran, Moradnezhad et al. (2017) found that the spiritual intelligence of ICU nurses was at a moderate level. Another study also conducted in Iran, Naji (2018) stated that the spiritual intelligence of nurses in oncology departments was at a moderate level. Some researchers stated that PSI measured spiritual orientation more than spiritual intelligence and many items in it lacked face validity (Amram & Dryer, 2008; Smith, 2013) and SISRI is a good instrument to measure spiritual intelligence (King & DeCicco, 2009; Smith, 2013). However, until now, no study could be found that explores nurses' spiritual intelligence by using King and DeCicco's (2009) instrument in Honghe, even in China.

In China some problems hinder the nurses use of spiritual intelligence. China is a materialist society that values objectivism and ideology, spirituality is rarely noticed (Yang & Mao, 2007). Nurses rarely think deeply about existential problems such as what

happens after death. Most nurses consider death as the permanent disappearance of life, they rarely or never consider the concept of "I die" and when they discuss death, they have heavy feelings and they avoid psychology (Liang, Chen, & Xiao, 2007). Moreover, about 52.5% of nurses have no clear goal for their future career development in China (Xin Hua Net, 2017), thus they may find it hard to make decisions based on their goals. In addition, nurses may find it difficult to find the meaning and purpose from their daily experience, since nurses believe that personal values are very difficult to achieve in China (Wang, Li, He, & Chen, 2013), nearly half (46.5%) of nurses regard nursing as a means of livelihood, 11.2 % think of nursing as a low meaning career (Zhang & Yang, 2010). Thus, nurses may find it difficult to find the meaning or purpose from this working environment, the recovery and exploitation of nurses' spirituality and their spiritual ability is an imperative task in China (Yang & Mao, 2007). In Honghe, since no training regarding spiritual intelligence was conducted, nurses have almost never heard of this concept, and they seldom or never think about the reasons for the existential problems, such as time, universe, and death (personal communication, 2018).

According to an analysis of Greenslade and Jimmieson's (2007) nursing job performance model and King and DeCicco's (2009) four-factor model of spiritual intelligence, spiritual intelligence may have some relations with each component of nursing job performance. When people have high spiritual intelligence, they will have high critical thinking ability to understand overall existing problems and find the meaning of things by themselves and effectively adapt to their working environment, this may encourage nurses to do their work well. Thus, *spiritual intelligence* may increase nurses' *task performance*. In addition, when people have high spiritual intelligence, people will have a more comprehensive awareness of things and consider things from a transcendent perspective, this may help nurses recognize their status in the organization, encourage them to engage in the organization development and support organizational objectives. Thus, *spiritual intelligence* may strengthen nurses' *contextual performance*. In a word, spiritual intelligence makes people establish a holistic cognition of life and helps them adapt to their working conditions positively (Tabarsa & Jalaei, 2015). The cognitive competence predicts job performance in all jobs (Hunter, 1986), and if an employee adapts to their working conditions, it may increase their job performance. Therefore, it seems that spiritual intelligence could promote job performance.

As for the relationship between spiritual intelligence and job performance, there are several studies that have been conducted. In Iran, Estanesti (2016) found a strong positive relationship between spiritual intelligence and job performance among managers of State Organization ($r = 0.74$, $p < 0.05$); In Shiraz, Kimiyayi and Daryaee (2016) found a significant positive relationship between spiritual intelligence and job performance among school teachers ($r = 0.43$, $P < 0.01$). In Iran, Khandan et al. (2017) found a weak relationship between spiritual intelligence and job performance among nurses ($\beta = 0.01$, $P < 0.001$). Based on the above results, there is a positive relationships between spiritual intelligence and job performance in different professions.

According to the above situations and problems in the tertiary hospitals of Honghe, the job performance and spiritual intelligence in Honghe may be different from those of the nurses who are working in other cities and countries. Furthermore, there has been no study that looks at spiritual intelligence and job performance among nurses in Honghe, it's necessary to conduct a research regarding these two variables in Honghe. The results of this study will provide a reference for future studies and extend the knowledge on nurses' job performance and spiritual intelligence in Honghe.

Research Objectives

The objectives of the study were as follows:

1. To explore the spiritual intelligence among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China.

2. To explore the job performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China.

3. To examine the relationship between spiritual intelligence and task performance and contextual performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China.

Research Questions

The research questions for the study were as follows:

1. What is the level of spiritual intelligence among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China?

2. What is the level of task performance and contextual performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China?

3. Is there any relationship between spiritual intelligence and task performance and contextual performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China?

Definition of Terms

Spiritual intelligence refers to the set of mental capacities of nurses that contribute to the awareness, integration, and adaptive application of the non-material and transcendent aspects of a nurse's existence, which leads to a nurse's deep existential reflection, enhancement of meaning, recognition of a transcendent self and mastery of spiritual states. It consists of 1) Critical existential thinking, 2) Personal meaning production, 3) Transcendental awareness, and 4) Conscious state expansion (King & DeCicco, 2009). It was measured by Spiritual Intelligence Self-Report Inventory (SISRI-24) that was developed by King and DeCicco (2009), and was translated into Chinese by the researcher.

Job Performance refers to the behaviors performed by nurses that directly contribute to the organization's technical core; and the behaviors that keep the technical core functioning which includes more discretionary behaviors that help the hospital function. It included task performance and contextual performance, and was measured by Chinese Version Shortened Job Performance Scale (SJPS) of Greenslade (2008) which was translated by Lin (2012).

Nurse refers to a person who graduated with a certificate or a degree from an approved nursing education institution and who holds the Registered Nurse license

granted by the Ministry of Health, P. R. China and who is working in a tertiary hospital of Honghe.

Tertiary hospitals refers to non-profit health care settings, which have more than 501 beds and a certified level by the Ministry of Health of China, supply high level medical and health services for locals and outsiders and take responsibility for providing medical education, information and technical support and research. The tertiary hospitals of this study include: 1) The First People's Hospital of Honghe State, 2) The People's Hospital of Gejiu City, and 3) The Third People's Hospital of Honghe State.

CHAPTER 2

Literature Review

This chapter reviews the literature related to the subject variables of both previous and recent studies. In addition, supporting information of the significance of the study is reviewed. The contents of the literature reviews are as follows:

1. Spiritual intelligence
    1.1 Definition of spiritual intelligence
    1.2 Theories and models related to spiritual intelligence
    1.3 Instruments of spiritual intelligence
    1.4 Factors related to spiritual intelligence
    1.5 Studies related to spiritual intelligence
2. Job Performance
    2.1 Definition of job performance
    2.2 Theory and models related to job performance
    2.3 Instruments of job performance
    2.4 Factors related to job performance
    2.5 Studies related to job performance
3. Relationship between spiritual intelligence and job performance
4. Situation related to job performance and spiritual intelligence in China and Honghe
5. Conceptual framework.

Spiritual Intelligence

Definition of Spiritual Intelligence

Spiritual intelligence is a new research area that has been recognized and developed in recent years. With the improvement of living standards, people no longer worry about survival and safety, their focus has shifted to spiritual needs and self-realization such as self-transcendence (Smith, 2013). Thus, more and more researchers start paying attention to spiritual intelligence and many researchers give a definition of it.

Emmons (2000a) defined spiritual intelligence as a framework for discerning and organizing skills and capacities required for an appropriate use of spirituality. It emphasizes the abilities that use spiritual resources to predict functioning and adaptation. In the same year, Zohar and Marshall defined the spiritual intelligence as referring to the intelligence that we handle to settle problems of meaning and value, the intelligence that we can use to push our actions and our lives in a wider, richer, meaning-giving context (Zohar & Marshall, 2000). Then, Wolman (2001) defined spiritual intelligence as the human capacity to ask final questions about the meaning of life, and to experience the seamless connection between each of us and the world which we live in, at the same time. After that, Nasel (2004) defined spiritual intelligence as referring to the ability to draw on one's spiritual abilities and resources to better identify and find some meaning, and resolve existential, spiritual and practical issues. Several years later, Amram (2007) defined spiritual intelligence as the ability to draw on, manifest, and embody spiritual resources, values and qualities to improve daily functioning and wellbeing.

King (2008) defined the spiritual intelligence as a set of mental capacities which contribute to the awareness, integration, and adaptive application of the non-material and transcendent aspects of one's existence, leading to outcomes such as deep existential reflection, enhancement of meaning, recognition of a transcendent self, and mastery of spiritual states. Then, Wigglesworth (2012) defined spiritual intelligence as the ability to behave with wisdom and compassion while maintaining inner and outer peace regardless of the situation.

In summary, all of the above definitions define spiritual intelligence from a general perspective and can be used in different professions. However, the definition proposed by King (2008) focused on individual mental ability to improve awareness, adaptive ability, and recognizing the deeper self, leading to an individual getting comprehensive recognized objective things, find the meaning of things and a mastery of spiritual states. Nursing is regarded as a profession with high workload and high work-related stress (Zyga et al., 2016), King's definition is the most appropriate to use in this work environment. Therefore, the definition of spiritual intelligence from King (2008) was used in this study.

Theories and Models Related to Spiritual Intelligence

In recent decades, researchers have been paying attention to spiritual intelligence, some researchers suggested some theories and models of spiritual intelligence to interpret it.

1. Model of spiritual intelligence developed by Emmons. According to Gardner's (1993) multiple intelligences theory and intelligence criteria, Emmons (2000a) proposed a spiritual intelligence model which includes five components: 1) the capacity for transcendent awareness, 2) the ability to enter spiritual states of consciousness; 3) the ability to sanctify everyday experiences; 4) the ability to utilize spirituality to solve problems; and 5) the capacity to engage in virtuous behaviors (e.g., forgiveness). Due to the last component being more accurate an interpretation than preferred behavior (Mayer, 2000), it has been removed from the conceptual model (Emmons, 2000b).

The detail of each component was as follow: *The capacity for transcendent awareness* refers to the capacity of the person rising above or going beyond the ordinary limits of physicality. *The ability to enter spiritual states of consciousness* refers to the capacity of the person to engage in heightened or extraordinary forms of consciousness. *The ability to sanctify everyday experiences* refers to the ability to invest everyday activities, events, and relationships with a sense of the sacred or divine. *The ability to utilize spirituality to solve problems* refers to the ability of taking the spiritual and religious resources in the coping process, including religious and spiritual coping. And *the capacity to engage in virtuous behaviors* refers to the capacity to engage in virtuous

behavior on a constant basis, such as showing forgiveness, expressing gratitude. Thus, Emmons' spiritual intelligence model emphasizes the ability for an appropriate use of spirituality and the abilities to use spiritual resources to predict function and adaptation.

2. Model of spiritual intelligence developed by Wolman. Wolman (2001) developed a seven-dimension model to interpret the spiritual intelligence, which included divinity, mindfulness, extrasensory perception, community, intellectuality, trauma, and childhood spirituality.

In this model, divinity refers to a sense of divine source of energy, higher being or awesome wonder at natural phenomena. *Mindfulness* means attention to bodily processes such as conscious eating, regular meditation, and exercises. *Extrasensory perception* includes items that pertain to the "sixth sense" or paranormal psychic events. *Community* refers to social activities, including involvement in Parent-Teacher Organizations or work of some charitable nature. *Intellectuality* represents a desire and commitment to reading and discussing spiritual material and sacred texts. *Trauma* is often thought of as a crisis-oriented stimulus to spirituality, such as illness in self or others or the death of a loved one. *Childhood spirituality* refers to the spiritual experiences of youth, including attending religious services or being read to by parents from sacred texts. In a word, Wolman's spiritual intelligence model focuses on the individual's ability to find the meaning of life and the experience of connecting seamlessly with the world we live in.

3. Model of spiritual intelligence developed by Amram and Dryer. Amram (2007) developed an ecumenical grounded theory of spiritual intelligence based on interviews with 71 people of different traditions designated as spiritually intelligent by their associates. Then, Amram and Dryer (2008) based on this grounded theory developed a spiritual intelligence model that includes five components. There were 1) consciousness, 2) grace, 3) meaning, 4) transcendence, 5) truth.

The detail of each component are showed as follows: *consciousness* refers to the ability to improve or transform consciousness, to use intuition, and to combine multiple perspectives to enhance everyday function and well-being. *Grace* reflects the inner sense of direction and the love of life, using the inspiration, beauty and happiness

of each moment on the very moment to enhance function and happiness. *Meaning* refers to the ability to experience meaning, connect activities and experiences with values, and establish explanations to enhance function and wellbeing even in the face of pain and suffering. *Transcendence* refers to the ability to form alliances with the sacred, and transcend the egoistic self with a sense of relatedness and holism thereby enhancing function and happiness. *Truth* refers to the ability to live in the present, love and peacefully obey the truth, showing open acceptance, presence, humility and trust thereby increasing daily functioning and wellbeing. Thus, Amram and Dryer's spiritual intelligence model emphasizes the abilities to use spiritual resources to enhance daily function and wellbeing. This ability helps people realize the meaning of their actions and understand which actions and behaviors are more valuable and which ways are better in our lives (Zohar & Marshall, 2000).

4. Four-factor model of spiritual intelligence developed by King and DeCicco. King and DeCicco (2009) first proposed a four-factor model of spiritual intelligence through an extensive literature review. In this model, spiritual intelligence included: 1) critical existential thinking, 2) personal meaning production, 3) transcendental awareness, and 4) conscious state expansion.

Critical existential thinking refers to the capacity to critically contemplate meaning, purpose, and other existential or metaphysical issues, such as reality, the universe, space, time, death. Cognition is a vital part when an individual thinks about the objectively existing problems. In the cognition process, critical thinking ability helps the individual comprehensively consider or resolve existential issues. In the nursing area, nurses usually face some objective issues such as death. Using critical thinking ability to think problems over is important to improve this ability.

Personal meaning production reflects the ability to construct personal meaning and purpose in all physical and mental experiences, including the capacity to create and master a life purpose. A person's personal meaning means that she or he has a purpose in life, a sense of direction and a reason for existence. Physical and mental experiences come from daily life, such as leisure activities, work, reminiscence and dreams. In the nursing area, nurses get physical and mental experiences from their daily work life, they may be able to find their personal meaning by integrating these experiences.

Transcendental awareness refers to the ability to perceive transcendent dimensions of the self (e.g., a transcendent self), of others, and of the physical world (e.g., nonmaterialism, interconnectedness) during the normal, waking state of consciousness. Perceiving transcendent aspects could be recognized by in-depth perception and holistic perception, but these two cognitive abilities are often said to exist outside of ordinary consciousness (to the extent that they are not perceived by the physical senses), which includes non-materialism, holism, interconnectedness, and transcendent aspects of the self and others.

Conscious state expansion refers to the ability to enter spiritual states of consciousness, such as pure consciousness, cosmic consciousness, oneness at one's own discretion. Expanded or altered conscious states are closely related to religion and spirituality. Some religious activities such as meditation and relaxation can change the states of consciousness.

From the above models, Emmons' model contained some theological interpretations, Wolman's model focused more on phenomenological experience and Amram and Dryer's model did not make a careful distinction between spiritual ability, behavior and experience, as a result these theories have some limitations and can not be universally applied (King & DeCicco, 2009). However, King and DeCicco's (2009) spiritual intelligence model avoids the limitations mentioned above and focuses on the individual's mental ability to improve adaption to their environment, recognize the deeper self and build personal meaning on their own. Nurses working in highly stressful environments considered it difficult to achieve their personal value in China (Wang et al., 2013), the model of King and DeCicco's (2009) was most appropriate to use in this work environment. Therefore, King and DeCicco's (2009) spiritual intelligence model was selected for this study.

Instruments of Spiritual Intelligence

Instruments are the most important things to recognize and explore the spiritual intelligence. There were several instruments that had been developed to measure spiritual intelligence, but some instruments can not be widely used. For example, Nasel's Spiritual Intelligence Scale (SIS) and Spiritual and Religious Dimensions Scale (SRDS) were

developed for those in the Christian tradition (Hildebrant, 2011; Smith, 2013) and these two instruments were not measuring intellectual properties (Johnson-Miller, 2010) and failed to offer a universal measure of spiritual abilities (King & DeCicco, 2009); Moreover, Tirri, Nokelainen, and Ubani's (2006) Spiritual Sensitivity Scale are valid for measuring sensitivity more than intelligence (Smith, 2013). Thus, the following reviews focus on the instruments that can be widely used to measure spiritual intelligence.

1. Psycho-Matrix Spirituality Inventory (PSI). Wolman (2001) developed an instrument to measure spiritual intelligence which is called Psycho-Matrix Spirituality Inventory (PSI), this instrument contained 80 items grouped into seven dimensions. It's a 4-point Likert-type scale which goes from 1 (never) to 4 (almost always). The validity of the PSI was originally evaluated by Wolman's (2001) study on 714 individuals. However, Amram and Dryer's (2008) study stated that the PSI measured mental orientation more than spiritual intelligence and many items in it lacked face validity.

In 2007, the Chinese researcher Yang and Mao modified Wolman's instrument in order to adapt it to the Chinese environment. The Chinese version of the PSI contained 49 items, grouped into seven domains and each domain included 7 items. The seven domains were divinity, mindfulness, extrasensory perception, community, intellectuality, trauma, and childhood spirituality. The scores of each domain were added up to the items included in the domains and divided by seven, and the score of the domain could be calculated as high, moderate and low level (Yang & Mao, 2007).

The Chinese version of the PSI was a good valid and reliable instrument. The Cronbach's Alpha of the PSI was .92 and the Cronbach's Alpha of domain scales ranged from .612 to .794. The Cronbach's Alpha of each domain was: divinity .794, mindfulness .677, extrasensory perception .766, community .612, intellectuality .708, trauma .655, and childhood spirituality .758. The validity of the Chinese version used Intraclass Correlation Coefficient (ICC) and the value was .88.

2. Integrated Spiritual Intelligence Scale (ISIS). Amram and Dryer (2008) based on Amram' (2007) grounded theory of spiritual intelligence, developed the Integrated Spiritual Intelligence Scale to measure spiritual intelligence. The original scale included 83 items to measure 22 capabilities of spiritual intelligence; 82 items were used

to measure spiritual intelligence and one item was used to measure the validity of this instrument. The 82 items included in the scale were grouped into five domains. The context and items of each domain were as follow: consciousness (12 items), grace (19 items), meaning (8 items), transcendence (22 items), and truth (21 items).

This instrument was a six-point Likert scale: 1 = rarely or almost never, 2 = very infrequently, 3 = somewhat infrequently, 4 = somewhat often, 5 = very frequently, 6 = always or almost always. Sub-scale scores for each capability were determined by calculating the mean of the scores of the items assessing that capability. Domain scale scores were determined by calculating the mean of the scores of the items included in the domain. The overall score of spiritual intelligence was obtained by calculating the mean of all of the item scores.

In order to reduce participants' time to finish the scale, the author constructed a short version of ISIS. For each capability sub-scale, the author selected 2 items that showed high correlation with the overall sub-scale constructing the shorten scale. The shorten version of ISIS included 44-items for assessing the 22 capabilities and one validity item, the total contained 45 items in it. The short scale was grouped into 5 domains which were consciousness (6 items), grace (12 items), meaning (4 items), transcendence (10 items), and truth (12 items).

The total Cronbach's Alpha of this instrument was .97. The domain scales Cronbach's Alpha ranged from .84 to .95, with a mean value of .89. The Cronbach's alpha values for the domain scales were: Consciousness .84; Grace .91; Meaning .86; Transcendence .95; Truth .90. The validity of this instrument was assessed by the authors through convergent and discriminant validity among 230 participants.

3. Spiritual Intelligence Self-Report Inventory (SISRI-24). King and DeCicco (2009) based on their previous four-factor model developed the Spiritual Intelligence Self-Report Inventory (SISRI-24) to measure spiritual intelligence. SISRI contained 24 items grouped into four domains: critical existential thinking (7 items), personal meaning production (5 items), transcendental awareness (7 items), and conscious state expansion (5 items).

This instrument was a five-point Likert scale instrument, the scoring criteria were 0 = Not at all true of me, 1 = Not very true of me, 2 = somewhat true of me, 3 = Very true of me, 4 = completely true of me. The total score of spiritual intelligence was calculated by summing all sub-scale scores, and the total score ranged from 0-96. The score of each dimension was calculated by summing the score of items included in the dimension. But the item number 6 was a reverse scoring item. Higher scores represented higher levels of spiritual intelligence and/or each capacity.

The total Cronbach's alpha of this instrument was .92. The Cronbach's alpha values for the four sub-scales were: critical existential thinking .78, personal meaning production .78, transcendental awareness .87, and conscious state expansion .91. The validity of this instrument was tested by confirmatory factor analysis and the results showed that all items in the SISRI-24 were valid (CFA > 0.5).

Among the above instruments, PSI measured more sensitivity and not intelligence and many items lacked face validity (Amram & Dryer, 2008, Smith, 2013). ISIS has received good research and field testing, but the authors did not explain the scoring and provide more information after publication, which can only be found in the appendix of their paper conducted in 2008 (Smith, 2013). However King and DeCicco's (2009) Spiritual Intelligence Self-Report Inventory (SISRI-24) was a reliable and valid instrument to measure spiritual intelligence (King & DeCicco, 2009; Smith, 2013), consistent with the accepted definition and conceptual model, the SISRI-24 is suitable for measuring the spiritual intelligence of nurses in high-pressure environments. Moreover, this instrument only included 24 items therefore nurses could finish this questionnaire within 10 minutes, which did not bring them with extra burden. Thus it was chosen as the instrument of this study.

Factors Related to Spiritual Intelligence

Based on the literature reviews, some individuals' factors were related to spiritual intelligence, as it's shown below:

Gender. Some researcher found that gender was related to spiritual intelligence, the mean score of spiritual intelligence of male was higher than the female. In Ilyas and

Arshad's study (2017), the male teacher's spiritual intelligence score was 55.96 (SD = 13.85) and the female teacher's was 53.50 (SD = 11.53); in Kushwaha's study (2014), the mean score of spiritual intelligence of male teacher was 222.44 (SD = 15.29) and female teacher was 221.98 (SD =13.68). Further, Kalantarkousheh, Sharghi, Soleimani and Ramezani (2014) stated that the mean score of spiritual intelligence of male university staff was 67.88 (SD = 10.35), female staff was 63.75 (SD = 11.78). Before that, Mohebi, Rastegari, Jaafari, and Sepehrinia (2013) found that the spiritual intelligence was 18.44 (SD=116.3) among male nursing students and higher than female nursing student (mean = 16.9, SD = 122.61).

Work experience. Khandan et al. (2017) stated that nurses' work experience significantly related to their spiritual intelligence ($r = .309$, $p < .001$); Yang and Mao (2007) found that nurses who had 5 to 10 years of nursing experience got the highest score of spiritual intelligence than others ($\overline{X} = 11.89$, SD = 2.71), 3-5 years experience ($\overline{X} = 11.43$, SD = 1.29), < 3 years ($\overline{X} = 11.48$, SD = 2.21) and > 10 years ($\overline{X} = 11.12$, SD = 1.76); moreover, Yang (2006) found that nurses with more than 10 years of work experience had higher score of spiritual intelligence than other groups (3~5 and 5~10 years of work experience); Nurses who have more work experience should have more experience of resolving problems and adapting to surrounding environments which may lead them to get a higher score of spiritual intelligence.

Age. Nurses' age impacts on their spiritual intelligence. Khandan et al. (2017) found that nurses' age was significantly related to their spiritual intelligence ($r = .27$, $p < .001$); Yang and Mao (2007) indicated that nurses who were age of 40 or above ($\overline{X} = 11.75$, SD = 2.33) had higher spiritual intelligence than that of nurses in age 20-29 ($\overline{X} = 11.54$, SD = 2.21) and in age 30-39 ($\overline{X} = 11.22$, SD = 2.10). Moreover, Yang (2006) stated that the older the nurses, the higher their spiritual intelligence scores tended to be ($F = 11.54$, $p < .001$). Nurses accumulate more work experience as they age, which may lead to higher scores of spiritual intelligence as they get older.

Religions. Yang (2006) found that nurses who indicated religious affiliation ($\overline{X} = 15.71$, SD = 3.48) had higher spiritual intelligence than nurses who did not ($\overline{X} = 13.78$, SD = 2.98). Furthermore, King and DeCicco (2009) stated that conscious state expansion is an

important component of spiritual intelligence, religion is closely related to the expanding of the conscious state (James, 2002; Maslow, 1964), some religious activities such as meditation and relaxation could change the state of consciousness (Vaitl et al., 2005). Thus, one's religion was related to their spiritual intelligence.

Position. Nurses' position was positively related to spiritual intelligence. Yang and Mao (2007) found that the scores of spiritual intelligence was higher in the nurses who were employed as a head nurse or associate head nurse ($\overline{X}$ = 11.60, SD = 0.79), team leader ($\overline{X}$ = 11.23, SD = 2.62) and basic nurse ($\overline{X}$ = 11.55, SD = 2.18). Parande, Ezadi, Ebadi, and Ghanbari (2011) found that the majority of nurse managers (82.7%) had a high level of spiritual intelligence because nurse managers have higher intellectual and mental capacities for managerial positions, which would lead nurse managers to have high spiritual intelligence (Moradnezhad et al., 2017).

In summary, demographics factors that related to spiritual intelligence included: gender, age, work experience, religious belief; thus these factors needed to be explored in this study.

Studies Related to Spiritual Intelligence

According to the results of literature reviews, some studies have been developed to inspect the spiritual intelligence in different professions and different countries by using different instruments. The reviewed results below focused on using King and DeCicco's (2009) SISRI-24 to explore spiritual intelligence in nursing profession. Since no relevant literature has been found in China, these reviewed results only contain literature from other countries.

In order to investigate the level of spiritual intelligence among ICU nurses in Iran, Moradnezhad et al. (2017) conducted a research in the intensive care units (ICU, CCU) of Tehran University of Medical Sciences hospitals affiliated in Iran. A total of 400 ICU nurses were included in this descriptive study, the results showed that the total score of spiritual intelligence of ICU nurses was at a moderate level ($\overline{X}$ = 54.34, SD = 1.4).

Naji (2018) developed a study to investigate the relationship between spiritual intelligence and the quality of work life among nurses in oncology departments of Ahwaz

hospitals, Iran. A total of 95 nurses were recruited for this study by census sampling method, the results showed that the total score of spiritual intelligence of nurses was at a moderate level ($\overline{X}$ = 58.07, SD = 15.75). The mean score of each dimension as follows: critical existential thinking ($\overline{X}$ = 17.39, SD = 5.24), personal meaning production ($\overline{X}$ = 12.75, SD = 3.54), transcendental awareness ($\overline{X}$ = 16.24, SD = 4.82) and conscious state expansion ($\overline{X}$ = 11.68, SD = 4.09).

According to the literature reviews, nurses perceived the level of spiritual intelligence as moderate which means there was still room for increasing nurses' spiritual intelligence, more studies were needed. In addition, these two studies were conducted in Iran, due to cultural differences between countries, the results in Iran may not be generalized to China. Moreover, neither in Honghe, nor in China, no study could be found investigating the spiritual intelligence of nurses by using King and DeCiccos' (2009) SISRI-24; this study will be the first to explore the spiritual intelligence of nurses in Honghe. Therefore, it is necessary to conduct some research exploring the spiritual intelligence of nurses in Honghe.

Job Performance

Definition of Job Performance

Job performance has always been a hot topic for researchers. Many researchers have defined the job performance and with the progress and development of society, the definition of job performance has evolved more and more comprehensively and it is more and more adapted to the development of society and the requirements of nurses.

Schwiran (1978) defined job performance as the effectiveness and productivity of the nurse in implementing his or her roles and responsibilities associated with direct patient care. Then, Murphy (1989) defined job performance as the function of the individual's performances on the specific tasks that comprise standard job descriptions. After that, Campbell (1990) defined job performance as the behaviors or actions which carry out by the individual to contribute to realize the goals of organization, and which could be evaluated based on the level of individual's proficiency. After Campbell's definition, Fitzpatrick, While, and Roberts (1997) defined job performance as the

effectiveness of a nurse on implementing his or her roles and responsibilities related to direct patient care.

After that, Greenslade and Jimmieson (2007) defined job performance as the behaviors performed by nurses that contribute directly to the organization's technical core (task performance) and includes those activities that are typically recognized as part of workers job, while those behaviors that maintain the broader social environment (contextual performance) in which the technical core must function, it includes more discretionary behaviors which assists the hospital to function. A recent definition of job performance was defined by Carlos and Rodrigues (2016), job performance refers to the evaluative and episodic behaviors that an individual adopts towards her/his job as a result of the dynamics between cognitive abilities, personality and learning experiences that aggregate values to the organization.

In this study, the definition of Greenslade and Jimmieson (2007) was used. The reason for choosing this definition is as follows: first, this definition was the latest description of job performance focusing on nursing area. Secondly, this definition includes nurses' contextual performance, which is meeting social requirements for nurses. With the implementation high-quality care in China (Minitry of Health of China, 2010), nurses do not only need to implement the performance related to professional performance, but they also need to provide contextual performance related to the organization development and interpersonal support in the care process.

Theories and Models Related to Job Performance

As it is known to all, job performance is very important in any industry. Thus many researchers have developed different theories or models about it in the past few decades. Some illustrate job performance in general, such as Campbell's (1990) job performance model and Carlos and Rodrigues' (2016) job performance model. However, some models are specific to particular professions. There were some theories and models related to the job performance of the nursing profession, as showed below:

1. Model of job performance developed by Schwirian. Schwirian (1978) developed a model of nurses' job performance. It was widely used by many studies after

it was developed (Barrett & Myrick, 1998; Caretto, 1986; McCloskey & McCain, 1988; Pu, 2010; Yang, Su, & Zhang, 2006). This model consists of six dimensions which were 1) leadership, 2) critical care, 3) teaching/collaboration, 4) planning/evaluation, 5) Interpersonal relations/communication and 6) professional development. In this model 1) *leadership* was the activities in which a person would carry out a leadership function in spite of their professional title. 2) *Critical care* refers to nursing activities relating to the care of critically ill individuals, including a potential outcome of death. 3) *Teaching/collaboration* refers to the behaviors in which nurses teach clients and families as well as other health providers who are dedicated to the clients' well being. 4) *Planning/evaluation* refers to the behaviors contained in planning and in the appraisal of the nursing care of clients. 5) *Interpersonal relations/communication* refers to nurses' behaviors and their communication and interpersonal relationship with patients and other medical workmates in the working place. 6) *Professional development* represents the high performance and behavior that are responsible for professional growth, improving knowledge and capacities in professional nursing activities and domains. Thus, Schwirian's job performance model puts the emphasis on nurses' actual performance behavior in their daily work.

2. Theory of job performance developed by Borman and Motowidlo. Borman and Motowidlo (1993) identified two categories of employees' performance which were task performance and contextual performance.

Task performance is the proficiency which workers perform activities that are formally recognized as part of their jobs activities that contributes to the organization's technical core either by implementing its technical processes, or by sustaining and serving its technical requirements (Borman & Motowidlo, 1993). It included three sub-domains: 1) job-specific task proficiency represents the core substantive or technical tasks that are central to a job. (e.g., clerical-administrative duties; handle service orders or repair requests; install, operate, or maintain complex equipment); 2) non-job-specific task proficiency represents tasks that is not central to any particular job and tend to be necessary in many jobs. (e.g., plan, prioritize, organize, make decisions or solve problems; customer service and computer usage); and 3) written and oral communication task proficiency refers to the proficiency which a person can write or speak and is required to some extent in almost all jobs.

Contextual performance was typically conceptualized as being under the motivational control of individuals and less constrained by work characteristics than task performance. It is generally assumed that individuals can engage in contextual activities if they wish, and this choice reflects individual differences in motivation (Motowidlo, Borman, & Schmitt, 1997). It reflected the individual's voluntary behavior, such as voluntarily helping and cooperating with coworkers, favorably representing the organization to outsiders, and suggesting organizational improvements (Borman & Motowidlo, 1993). It included three sub-domains: 1) interpersonal citizenship performance refers to the behaviours those are beneficial to the individuals of organization such as helping and cooperating with others, assisting and helping coworkers; 2) organizational citizenship performance refers to the behaviors benefiting the organization and include organizational rules and procedures, defending organizational objectives, staying with organization during hard times and demonstrate loyalty, obedience, sportsmanship and conscientiousness; and 3) job-task conscientiousness refers to the behaviors benefiting the job such as demonstrating enthusiasm and put extra effort as necessary to complete one's own task, and volunteering to carry out task activities that are not formally part of one's job, suggesting organizational improvements.

Borman and Motowidlo (1993) stated that task and contextual performance have distinct determinations, and suggested that task and contextual performance are independent constructs, cannot be combine into one. This theory could be used to interpret the job performance in different professions.

3. Model of job performance developed by Fitzpatrick et al. Fitzpatrick, et al. (1997) proposed a job performance model based on Wandelt and Stewart's (1975) conceptual framework. Wandelt and Stewart illustrated that competency of actions caused performance. Competency meant having the ability of the required knowledge, skills and capacity to function in a given field. In the nursing area, a nurse's competency is revealed by how they perform nursing actions in providing care to patients (Wandelt & Stewart, 1975).

The job performance model of Fitzpatrick et al. (1997) consists of five dimensions which were physical, psychosocial, professional, communication and care management. In this model, 1) *physical* refers to nursing actions directed towards meeting

physical needs of patients. The nurse takes appropriate care measures according to the nursing procedure to meet the basic needs of the patient, such as clean, quiet, safe and effective treatment. 2) *Psychosocial* dimension includes two levels which were individual and group level. *Individual level* refers to nurses' actions performed and directed toward meeting psychosocial needs of individual patients. *Group level* refers to actions directed towards meeting the psychosocial needs of a patient as a member of a group. 3) *Professional* refers to the actions directed towards fulfilling a professional role: such as nurses providing care to patients while having the responsibility and obligation to continuously improve their professional skills, participate in professional training or meetings and constantly update their professional knowledge. 4) *Communication* refers to the actions directed towards the ability of nurses to communicate effectively with patients/relatives and others. 5) *Care management* refers to the actions performed to meet either psychosocial or physical needs of patients, or both at the same time. Therefore, Fitzpatrick et al.'s (1997) job performance model clearly described the actual nurses' job performance behavior while demonstrating that it is closely related to direct patient care.

4. Model of job performance developed by Greenslade and Jimmieson. Greenslade and Jimmieson (2007) described a model for job performance of nursing profession based on Borman and Motowidlo's (1993) theory. This model contained two main dimensions: task performance and contextual performance. The original version includes five sub-dimensions for task performance and three sub-dimensions for contextual performance.

Greenslade (2008) modified these two main dimensions to three for each one. For task performance, dimensions include social support, information provision, and technical care; and for contextual performance, they contain interpersonal support, job-task support, and organizational support.

Task performance refers to the level of proficiency of an incumbent to participate in activities that are formally recognized as part of their work, by directly carrying out some of its technical processes to contribute to the core technology of the organization, or indirectly providing the required materials or services.

Social support reflects the behaviors that nurses perform to meet the emotional needs of patients and their families. Nurses could provide many different kinds of emotional support, such as allowing the patient's family to accompany, listening to patients and family members talking about their concerns or fears, and providing comfort.

Information provision refers to the behaviors when nurses provide information and education to the patients and their families related to the patient's condition, treatment and rehabilitation.

Technical care refers to the behaviors that nurses perform towards meeting the physical needs of patients by serving and helping patients to address their needs and interests. These behaviors include developing care plans, assessing the effectiveness of care, providing patients with treatments and medications, and the activities that help patients maintain their daily lives.

Contextual performance is defined as the behaviors that support the extended environment in which the technical core must function such as demonstrating effort, helping and cooperating with others, following organizational rules and procedures, and supporting organizational objectives.

Interpersonal support refers to the behaviors that help other team members. Such as nurses helping each other in the team to meet the needs of patients and their families, and take the initiative to share knowledge with colleagues.

Job-task support refers to nursing activities going beyond job requirements to provide care for patients and their families. Such as nurses willing to stay to meet the needs of the patient after work.

Organizational support reflects the behaviors implemented by nurses to support the organization which includes adherence to the organization's rules, loyalty, and alignment with the organization's goals. For example, nurses voluntarily participate in activities to promote the development of the hospital; maintain the good reputation of the hospital; or actively offer some innovative suggestions to help the hospital develop or improve the quality of care.

Therefore, Greenslade and Jimmieson's (2007) model did not only include the nurses' daily performance behavior of nursing work but also extra performance behavior which was appropriate with the current society.

In summary, the job performance model developed by Greenslade and Jimmieson (2007) was used in this study. The reason for selecting this model as follows: first, previous job performance model such as Schwirian's (1978) and Fitzpatrick et al.'s (1997) model were proposed a long time ago and were not adapted to the current nursing environments. Secondly, Greenslade and Jimmieson's model includes both task performance and contextual performance, which is most appropriate with the fierce competition of high quality among medical organizations in China; nurses in this environment who only provide the performance behavior related to the nursing profession is not enough, they also need to implement some discretionary behaviors such as actively cooperating with colleagues and helping the hospital to function. Thirdly, this model was the latest model focusing on the nursing area and it was widely used in recent years. Therefore, Greenslade and Jimmieson's job performance model (2007a) was selected.

Instruments of Job Performance

Job performance needed to be measured and evaluated. Many different instruments were developed in the last few decades. Some instruments that were developed to measure general job performance such as Carlos and Rodrigues' job performance scale were not included in the reviews of this study, following results of instruments of job performance only focusing on nursing.

1. Six Dimension of Nursing Performance Scale (6-D scale) developed by Schwirian. The Six Dimension (6D) Scale created by Schwirian (1978) was a popular scale and was widely used to evaluate nurses' job performance. This scale contained 52 items and was grouped into 6 dimensions. The items in each dimension were as follows: leadership (5 items), teaching/collaboration (11 items), critical care (7 items), evaluation/ planning (7 items), interpersonal relations/communication (12 items), and professional development (10 items). Excepting the professional development dimension, the rate of the scale by a 4-point scale, rated as: 0=not at all; 1 = not very well; 2 = satisfactory; 3 = well; and 4 = very well. The professional development dimension was rated as: 0 = never; 1 = seldom;

2 = occasionally; 3 = frequently; and 4 = consistently. The reliability of this instrument was calculated by Cronbach coefficient, the Cronbach's alphas reported by Schwirian (1978) ranged from .844 for the leadership dimension to .978 for the professional development dimension.

This instrument was translated into Chinese by Yang, Su, and Zhang in 2006 and they examined the validity of the Chinese Six-D Scale. The Content Validity Index (CVI) was .827, internal consistency reliability was .835 and overall Cronbach's alpha was .777 in their study (Yang et al., 2006).

2. King's Nurse Performance Scale (KNPS) developed by Fitzpatrick et al. (1997). Based on Wandelt and Stewart's (1975) nursing competencies rating scale, and together with key literature and expert opinion, Fitzpatrick et al. (1997) developed the King's Nurse Performance Scale (KNPS) in the United Kingdom. The original scale included 53 items grouped into seven dimensions. In the developing process some items were reduced, thus the shortened scale contains 28 items grouped into five dimensions: physical (9 items), psychosocial (4 items), profession (5 items), and communication (4 items), and care management (6 items). The scoring was rated as: 1 = dependent; 2 = marginal; 3 = assisted; 4 = independent. The total score was derived by summing the scores of all items rated and dividing by the total number of ratings.

This instrument was a reliable and valid instrument, the Cronbach's alpha coefficient was .93; Content validity was examined through an expert panel and construct validity was tested by using factor analysis.

3. Job Performance Scale (JPS) developed by Greenslade and Jimmieson (2007). Greenslade and Jimmieson (2007) developed an instrument for measuring nursing job performance based on Borman and Motowidlo's (1993) job performance theory, this instrument included 41 items and eight dimensions. For task performance, it contained 23 items grouped into four dimensions: 1) information support (7 items), 2) coordination of care (5 items), 3) social support (6 items), and 4) technical care (5 items). For contextual performance, it included 18 items also grouped into four dimensions: 1) interpersonal support (6 items); 2) job-task support (6 items); 3) compliance (3 items); and 4) volunteering for additional duties (3 items). Items includes in task performance evaluated by a 7-point

Likert scales, ranging from much below average (1) to much above average (7) to describe how well nurses in their unit completed their activities. Items contains in contextual performance rated on 7-point Likert scales, ranging from not at all (1) to a great deal (7) to describe how often nurses in their ward completed the activities listed. The internal consistency coefficient of items on task performance was .94 and contextual performance was .91. The validity of 41 items of JPS was tested by convergent validity. The authors tested the relationship of new performance scale with previous task performance scale (Bott, Svyantek, Goodman, & Bernal, 2003), contextual performance scale (Motowidlo & Van Scotter, 1994) and global performance scale (Motowidlo & Van Scotter 1994). The result showed that there was a significant correlations between new task and contextual performance scale and previous scales.

4. Shortened Job Performance Scale (SJPS). Based on the development of the job performance scale (Greenslade & Jimmieson, 2007), Greenslade (2008) developed the shortened job performance scale (SJPS) which included 25 items and six sub-dimensions. Task performance contained social support (4 items), information provision (4 items), technical care (3 items); contextual performance contained interpersonal support (5 items), job-task support (4 items) and organizational support (5 items). Items included in task performance were evaluated by a 7-point Likert scale, ranging from poor (1) to excellent (7) to describe how effective nurses are at each of the tasks (1= poor; 2 = below good; 3 = fairley good; 4 = good; 5 = somewhat above good; 6 = very good; 7 = excellent). Items included in contextual performance were rated on a 7-point Likert scale ranging from not at all (1) to a great deal (7) to describe how often nurses perform these activities.

The reliability of the task and contextual performance are reliable (alpha = .90 and .90 respectively), the reliability of each sub-domain scale was: social support (α = .94), technical care (α = .85), information (α = .84), interpersonal support (α = .93), job-task support (α = .90), and organizational support (α = .86). The validity of the Shortened Job Performance Scale was confirmed by the authors.

The Chinese researcher Lin (2012) used a translation and back-translation method translating Greenslade's (2008) SJPS into Chinese. The translation was implemented after she got the permission from the original authors and she did not modify the content and structure of the scale. In Lin's study, the Cronbach's alpha coefficient

was .96 for task performance scale and .93 for the contextual performance scale (Lin, 2012).

In summary, all of the above tools had good validity and reliability and could be used to measure the performance of nurses. The Chinese version of the Shortened Job Performance Scale was selected in this study. Since Greenslade and Jimmieson's Shorten Job Performance Scale focused on the nursing area, it was consistent with the definition and conceptual model of this study and most appropriate to measure nurses' performance in high-quality competition environment in China. Moreover, the SJPS includes 25 items which means that nurses could finish it in a short time and did not take up much of their personal time. In addition, the Chinese version of this instrument was suitable for the Chinese society and Chinese nurses could answer the questions easily. Therefore, the Chinese version of the Shortened Job Performance Scale was used to measure nurses' job performance in this study.

Factor Related to Job Performance

Based on the literature reviews, some factors demonstrated some association with job performance. Below are some reviewed results of related factors including both personal factors and other factors.

Organizational identification. Bacaksiz et al. (2017) found that there was a strong positive relationship between organizational identification and employee's performance ($r = .631$, $p < .001$) among nurses working in Istanbul. Individuals with emotional attachment to the organization showed higher performance and less absences (Meyer & Allen, 1997). Nurses who get high organizational identification from the hospital will have a sense of belonging to the organization and make better contributions to the organization, hence enhancing their job performance.

Education and training. Training has been found to have a positive and significant impact on job performance, (Bartel, 1995). Tzeng (2004) found that nurses' competencies positively related to nurses' performance and stated that education and training benefited and improved nurses' job performance ($r = .23$, $p < .01$ and $r = .36$, $p = .02$ respectively).

Demographics data. Some personal factors have been found to impact on nurses' job performance. Khandan et al. (2017) stated that gender related to job performance ($P < .001$), and the job performance of women were higher than that of men ($\overline{X} = 36.7$, $SD = 6.76$; $\overline{X} = 33.53$, $SD = 7.49$). Moreover, Mrayyan and Al-Faouri (2008) stated that nurses' job performance was associated with marital status ($r = .515$, $P < .001$) and years of experience in nursing ($r = .532$, $p < .001$). In addition, Pu (2010) found that nurses' professional title impacted on nursing job performance. Packard and Motowidlo (1987) stated that subjective stress had a negative effect on job performance.

In summary, personal factors that were related to spiritual intelligence included: gender, marital status, years of experience in nursing, age, professional title, and education level. Thus, these factors were explored in this study.

Studies Related to Job Performance

The reviewed studies focused on using the Shortened Job Performance Scale of Greenslade (2008) to evaluate nurses' job performance in other countries and China. A total of six studies that evaluated nurses' job performance by using the SJPS were reviewed.

Lin (2012) conducted a descriptive correlation study to measure the levels of job performance of nurses in tertiary hospitals of Yunnan Province. The author recruited 441 nurses by a stratified random sampling method from six tertiary hospitals in Yunnan. In this study, the Greenslade's (2008) Shortened Job Performance Scale was translated into Chinese by the researcher and used to evaluate the nurses' job performance. The results reported that task performance ($\overline{X} = 43.98$, $SD = 1.52$) and contextual performance ($\overline{X} = 49.43$, $SD = 1.78$) of nurses in tertiary hospitals of Yunnan Province were at a moderate level.

Fathimath (2012) conducted a study to investigate the level of job performance in the tertiary care hospitals of the Maldives. A total of 216 nurses were recruited in this study by a stratified random sampling method. The results stated that task performance of nurses in the tertiary care hospitals of the Maldives was at a high level ($\overline{X} = 57.76$, $SD = 9.39$), while the contextual performance was at a moderate level ($\overline{X} = 64.45$, $SD = 12.95$).

Jeeza, Hongkrailert, and Sillabutra (2015) conducted a research to ascertain the relationship between efficacy and nursing performance among registered nurses working in tertiary care hospital, Indira Gandhi Memorial hospital (IGMH), Maldives. A total of 238 nurses were contained in this study by using a stratified random sampling method. The results revealed that the task performance of nurses in the tertiary care hospitals of IGMH was at a high level ($\overline{X}$ = 59.02, SD = 11.97), while the contextual performance was at a moderate level ($\overline{X}$ = 64.62, SD = 14.67).

Kanyana et al. (2018) developed a study to investigate the motivating language of the head nurses, and the job performance among nurses at government university hospitals, Chiang Mai, Thailand. The authors recruited 366 registered nurses by using the stratified random sampling method. The results reported that task performance ($\overline{X}$ = 58.72, SD = 7.37) and contextual performance ($\overline{X}$ = 72.00, SD = 10.54) of nurses in government university hospitals were at a high level.

Tong (2018) developed a research to investigate the level of job performance in Affiliated Hospitals of Harbin Medical University in northern China. A total of 389 nurses were included in this study through a random sampling method. The findings revealed that the task performance ($\overline{X}$ = 48.73, SD = 7.71) and contextual performance ($\overline{X}$ = 60.43, SD = 10.25) of nurses in Affiliated Hospitals of Harbin were at a moderate level.

Bai (2018) conducted a research to investigate the correlation between job performance and social support among ICU nurses of tertiary hospitals in Kunming. A total of 323 ICU nurses were recruited by a cluster sampling method. The researchers found that the task performance of ICU nurses in tertiary hospitals of Kunming was at a high level ($\overline{X}$ = 57.37, SD = 10.03) while the contextual performance of ICU nurses in tertiary hospitals of Kunming was at a moderate level ($\overline{X}$ = 53.2, SD = 6.62).

Based on the above research findings, the results of task performance and contextual performance were inconsistent in different settings. There were only two studies that were conducted in Kunming, Yunnan province (Bai, 2018; Lin, 2012). Kunming is the capital city of Yunnan province which has a higher level of medical care than others, the results from Kunming may not be generalized to Honghe. In addition, no study regarding nurses' job performance was conducted in Honghe, the level of nurses'

job performance is uncertain. Thus, it's necessary to conduct a research to explore nurses' job performance in Honghe.

Relationship Between Spiritual Intelligence and Job Performance

Based on the literature reviews, there were four studies that had been conducted to examine the relationship between spiritual intelligence and job performance by using different instruments and different results had been reported. This part reviewed the studies that explored the relationship between spiritual intelligence and job performance in different professions and different countries.

Estanesti (2016) conducted a correlation study to investigate the relationship between spiritual intelligence and job performance among managers in State Organization of Sistan and Baluchistan. A total of 35 managers were included in this study. Badie et al. spiritual Intelligence questionnaire and Paterson's (1970) job performance scale were used to evaluate the spiritual intelligence and job performance, respectively. The results showed that there was a strong positive relationship between spiritual intelligence and job performance ($r = .74$, $p < .05$).

Kimiyayi and Daryaee (2016) designed a correlation descriptive study to explore the relationship between spiritual intelligence, emotional intelligence and occupational performance among guidance school teachers in Shiraz. 120 teachers were recruited in this study by a cluster sampling method. In this study, King's spiritual intelligence 24-item questionnaire was used to assess the spiritual intelligence and Paterson's occupational performance questionnaires were used to evaluate the occupational performance. The results showed that there was a significant positive relationship between spiritual intelligence and occupational performance ($r = .43$, $P < .01$). Moreover, each dimension of spiritual intelligence had positive relationship with occupational performance: critical existential thinking ($r = .26$, $p < .01$), personal meaning production ($r = .40$, $p < .01$), transcendental awareness ($r = .27$, $p < .01$), and ultimate of consciousness ($r = .30$, $p < .01$).

After that, Khandan et al. (2017) conducted a study to investigate the relationship between spiritual intelligence and job performance among nurses and nurses aids in the main university hospital of Qom, Iran. A total of 197 nurses were included in this study

by randomized convenience sampling. Abdullahzadeh spiritual intelligence questionnaire and Peterson job performance questionnaire were used in this study. The results showed that there was a weak relationship between spiritual intelligence and job performance among nurses (β = .01, P< .001). Furthermore, Haryono (2018) conducted a study to examine the effects of emotional and spiritual intelligence on job performance among temporary nurses in the Regional General Hospital of Indonesia. A total of 129 temporary nurses joined in this study. The results showed that spiritual intelligence had no effect on job performance (t = .005, p > .05).

In summary, previous studies examined the relationship between these two variables by using different instruments and showed different results. In the nursing area, Khandan et al.'s study (2017) indicated a positive relationship but Haryono's study (2018) showed no relationships between these two variables; the relationship of these two variables in the nursing area in China are unknown and a research needs to be conducted to fill the gap. Moreover, different results were obtained in the relationship between these two variables by using different research instruments, no previous researchers used the SJPS of Greenslade (2008) and SISRI of King and Decicco (2009) to investigate the relationship and these two instruments were most appropriate for the situation in Honghe. However, the relationship between these two variables in nurses in Honghe is uncertain, more research is needed to estimate the relationships. In addition, the previous studies were all conducted in other countries and due to environment and cultural differences between countries, the results of other countries may not be generalized to China. Therefore, a study to explore the relationship between these two variables in Honghe and even in China is needed.

Situation Related to Job Performance and Spiritual Intelligence in China and Honghe

According to the Ministry of Health of China (1989), hospitals in China could be divided into three levels based on the function and assignment of the institutions: 1) Tertiary hospitals refers to those hospitals that have more than 501 beds and are responsible for integrating medical treatment, health care, education and scientific research. Tertiary hospitals need to provide services for the city, the province or the nation; 2) Secondary hospitals, refers to these hospitals that have 101 to 500 hospital beds, provide regional service and health care to multi-communities. These hospitals also need to provide health care service, teaching and research; 3) Primary hospitals, refers to hospitals that have less than 100 beds, the major function of these hospitals is to provide health care for community population. However, due to the large number of patients in tertiary hospitals, nurses face a huge workload in these hospitals. For example, the number of hospital visits in 2017 was 16.3 billion in tertiary hospitals, but only 2.2 billion in primary hospitals and 12.2 billion in secondary hospitals (Ministry of Health of China, 2018). There are 66 hospitals in Honghe (Medical Talent Network, 2003), but that only includes three tertiary hospitals which need to provide the highest medical service and provide major heath care in Honghe.

Adequate nurse staffing is key in improving the quality of care (Aiken, Clarke, & Sloane, 2002) and nurses are the main human resources in the health system (Cope, Jones, & Hendricks, 2016). However, the shortage of nurses is still a serious problem in China (Lyu, Li, Li, & Li, 2016). According to statistical results, the total number of registered nurses in China exceeded 3.8 million by the end of 2017 and the number of registered nurses per 1,000 inhabitants was 2.74 (Chinese National Health Commission, 2018). However, the number of nurses per 1,000 inhabitants in Monaco was 20.52, in the United States it was 9.88 and in Japan it was 11.24, respectively (World Health Organization [WHO], 2018). In Honghe, this ratio was 1.82:1,000 (The People's Government of Yunnan Province, 2016). By comparison, it's easy to see that nursing shortage was an obvious problem in China and Honghe, especially in Honghe.

Due to nursing shortage, most nurses have to face great workload and work-related stress which may affect nurses' job performance in China (Li et al., 2017). By the end of

2015, the ratio of nurses to beds in tertiary hospitals was 0.6:1 (Chinese National Development and Reform Commission, 2017). However, the ratios of nurses to beds in USA was 1.6:1, in France it was 1.2:1, and 0.9-1.2:1 in Japan (WHO, 2008). Generally, many hospitals in China have only one nurse to take care of more than 20 beds during night and evening shifts (Lin, 2012; Tong, 2018; Wang, 2011). Thus, nurses rarely provide communication, emotional support and information support to patients and their families (Lin, 2012).

Nurses in China do not pay a lot attention to the emotional support of patients (Wang, Jin, & Meng, 2009) because nurses always pay more attention to the behaviors that are the most urgent and the most necessary for patients such as medication administration, intravenous injections, indwelling catheters and respiratory needs (Lan, Zhao, & Yang, 2007). In addition, due to nursing shortage, nurses are always busy with treatment-related work in China, they cannot timely and comprehensively consider the emotional needs of patients (Tian, 2012). On the other hand, nurses had difficulties providing information support to patients and their families in China. Due to work overtime being serious in China, nurses had no time to provide information support. The majority of nurses (90.4%) worked more than 40 hours a week (Xin Hua Net, 2017), 46% of nurses worked more than 11 hours per day, and 35% of nurses worked more than 6 days a week (Lan et al., 2007). Thus, nurses in order to finish the work on time are always busy with their exigent and imperative routine work (Pu, 2010; Wang, 2011) such as observation, documents record and medication treatment during their shift time (Lin, 2012). When nurses provide nursing care for patients, there is not enough time for them to explain the purpose and side effects of treatments (Yang et al., 2006).

In Honghe, nurses also had difficulties providing enough emotional support to patients and patient's families. Nurses spend most of their time treating patients, observing patient's conditions and recording. They have no time to care for and consider the emotional needs of patients and their families (personal communication, 2018). Moreover, due to nursing shortage being more serious in Honghe, nurses face heavy workload, they usually ignored patients' emotional needs. On the other hand, in the first people's hospitals of Honghe, nurses need to provide information support to patient and their families. There was a patient education evaluation form to guide the nurses to

provide information support to the patients in the hospital. This evaluation form consists of admission guidance, disease guidance, medication guidance, examination guidance, surgery guidance, and rehabilitation and discharge guidance. From the admission to the discharge of patients, nurses implement information support based on the contents of this table. Each time nurses finished the education, they ticked corresponding entries and the head nurse would randomly recheck the patient's mastery of health education. However, nurses also have some problems implementing adequate information support to patients and their families. For example, in the first people's hospital of Honghe, each nurse in the day shift has to care for about 10 patients on average and there is only one nurse on duty from 12:00pm-2:00pm and during night shifts. This means that this nurse needs to care for at least 30 patients during that time (personal communication, 2018). A nurse working in the department of neurology stated that she wanted to communicate with patients, implement patient education, and guidance on how to do rehabilitation training for patients and their family members. However, it's difficult to complete her daily routine during working hours and she often needs to work overtime to complete her daily routine, so it is difficult for her to provide the above information support to patient and their families (personal communication, 2018).

Many nursing behaviors are related to contextual performance, such as providing interpersonal support between colleagues and organizational support (Greenslade, 2008). According to the regulation of nursing management in Yunnan, a new nurse needs to work with a senior nurse in each shift for at least 3 months before they can work independently (Song, You, & Yang, 2005). So the senior nurses have the responsibility to help and guide the junior nurses which helps increase the interaction between nurses. Moreover, in China, most nurses work in a specific department from the moment they are recruited until retirement without rotation, the relationship between nurses is stable (Chen, 2011), they may be more willing to help each other because of their long-term relationship. It's only when employees feel the support and return from the organization that they will contribute more to the organization (Xu, Che, Lin, & Zhang, 2005). With nursing development, the importance of nursing was gradually recognized by the hospital leaders, patients and society (Chen, 2011), nurses get respect form them, this may lead nurses to do more for the hospital and support the development of hospitals.

However, there still exists some problems that hinder nurses in providing sufficient job-task support in China because nursing is a profession which is faced with patient's health and life. Nurses must closely monitor the changes of patients' conditions at any time and make a correct judgment and give appropriate nursing care to prevent errors and accidents, otherwise they will bear corresponding legal responsibilities (Zhao, 2008). Thus, many nurses do not want to engender extra burden or potential risk to either themselves or others (Fan & Yang, 2008), they may not be willing to do extra performance for patients. Moreover, nurses who already have a heavy workload find it difficult to undertake extra work requirements (Wang, Zhao, & Gao, 2007). Therefore, it seems that nurses find it difficult to provide extra performance for patients. In Honghe, the above problems also exist and some nurses stated that they are not willing to take the additional time to satisfy patients' need, because they think it increases their workload. They prefer to spend time with their families or friends after work (personal communication, 2018). Thus, they may difficult to provide job-task support to the patients which may affect their contextual performance.

Spiritual intelligence makes people create mutual understanding between people, encourage the collaboration in working time, and makes individuals able to manage the changes, overcome obstacles and understand their mistakes (Moradnezhad et al., 2017). On the current issue of the tension between nurses and patients in China, 78.4 % of patients and their family members believed that the main reason for the tension between nurses and patients was due to the lack of mutual understanding (Xin Hua Net, 2017). Thus, there may have been some problems hindering nurses in using spiritual intelligence in China and Honghe.

China is a materialist society that values objectivism and ideology, spirituality is rarely noticed (Yang & Mao, 2007). Nurses rarely thought deeply about what happens after death. When nurses discussed death, they felt heavy and annoyed, they considered death as the permanent disappearance of life and rarely or never considered the concept of "I die" (Liang et al., 2007). Moreover, critical thinking is an important ability for spiritual intelligence (King & DeCicco, 2009). Critical thinking can help nurses develop some self-learning ability, problem solving ability and innovative thinking ability (Deng, 2006). However, the critical thinking of clinical nurses was at a lower middle level in

China (Gao, 2011) and some researchers suggested that nurse managers should strengthen the training of critical thinking of nurses in Yunnan province (Wang, Dai, & Jin, 2016). Therefore, because of a rare consideration of objective issues and insufficient critical thinking ability, nurses may have some problems using and developing their spiritual intelligence.

In Honghe, the critical thinking of nurses began to be recognized in recent years. For example, the first people's hospital of Honghe has started carrying out training related to critical thinking of nurses since 2013, but the nurse managers had to pay a lot of attention to developing this ability among nurses (personal communication, 2018). However, some nurses showed that because of their huge workload, they seldom or never thought about the reasons for the existential problems, such as time, universe and death (personal communication, 2018). Thus, nurses in Honghe may have some obstacles to recognize the objective things, which may affect them in how they use spiritual intelligence.

In addition, personal meaning was an important component of spiritual intelligence (King & DeCicco, 2009) but nurses hardly created their personal meaning in China. It's difficult for nurses to find meaning and purpose from their working environment. From the general public perception, 94.1% of people believed that nurses' work consists in injections and drug delivery (Xin Hua Net, 2017) and most people believe that nurses are dependent on doctors, rather than being an independent profession (Ge, 2011). Thus, 83.3% of the nurses stated that they can not feel respect from patients (Xin Hua net, 2017). Moreover, nearly half (46.5%) of nurses thought of nursing as a means of livelihood, 11.2 % thought of nursing as having a low meaning career (Zhang & Yang, 2010) and 52.5% of nurses had no clear goal for their future career development (Xin Hua Net, 2017), so nurses believed that personal value was very difficult to achieve in China (Wang et al., 2013). Therefore, due to Chinese nurses working in an environment that considers nursing as a low meaningful and low social status career, nurses may find it difficult to find meaning or purpose in their working environment, the recovery and exploitation of nurses' spirituality and their spiritual ability is an imperative task in China (Yang & Mao, 2007).

In Honghe, in the nurses' working environment, it is also believed that nursing is a low meaningful work. Nursing is not an independent science, nurses obey doctors (Zhao, Zhang, & He, 2007) and physicians' social status is much higher than nurses' (Xu & Yang, 2001). The main tasks of nurses are injections and drug distribution and most patients still believe that nurses are less valuable than doctors. Thus, many nurses stated that they repeat the same work every day; it is difficult for them to find their own meaning and purpose from the tedious work and their working environment (personal communication, 2018). Moreover, until now, no training regarding spiritual intelligence was conducted in Honghe, most nurses do not know about it.

The Honghe Hani Yi Autonomous State, referred to as Honghe State, is a minority autonomous prefecture where many ethnic minorities and Han people live together (Honghe State Bureau of Statistic, 2011). Unlike other parts of China, the health care system of Honghe faces special service groups (ethnic minorities). Thus, nurses need to have a high performance to provide good service to these patients. On the other hand, tertiary hospitals are evaluated every four years, they represent the highest medical care and get the main financial support in China (Ministry of Health of China, 1989). The tertiary hospitals of Honghe include the First People's Hospital of Honghe State, the People's Hospital of Gejiu City, and the Third People's Hospital of Honghe State. These three hospitals provide the highest medical treatment, health prevention and first aid for locals and outsiders, as well as undertaking major medical and health services of Honghe state. Thus, many patients the primary and secondary hospitals can't take care of are referred to the tertiary hospitals. Furthermore, Honghe state established the nursing quality control center in 2016 (Hospital News, 2016). Since its establishment, the center has been attached to the first people's hospital of Honghe. It has been responsible for formulating nursing norms and rules, organizing clinical quality inspections and analysis and providing professional guidance and training for nurses in the state. Nurses in the tertiary hospitals have the responsibility to teach medical students from medical school and staff nurses from low-level hospitals. Thus, nurses working in the tertiary hospitals have more workload and work-related stress than others, and this may lead to a decrease in their job performance.

According to the above situation, nurses working in these three tertiary hospitals are facing some different situations; they may have some problems regarding job performance and spiritual intelligence. However, no study was found to investigate the level of job performance in Honghe. No study could be found to explore spiritual intelligence among nurses by King and DeCicco's instrument in Honghe, not even in China; no study has been done to examine the relationship between spiritual intelligence and job performance among nurses in Honghe, even in China. Thus, the spiritual intelligence and job performance of nurses and the relationship between spiritual intelligence and job performance are uncertain in Honghe, it is necessary to conduct a research to fill the gaps. It will provide evidence for nurse administrators to make policies or training to improve nurses' job performance, thereby improving the quality of care.

Conceptual Framework

The conceptual framework of this study was based on the nurse job performance model developed by Greenslade and Jimmieson (2007a) and four factor model of spiritual intelligence developed by King and DeCicco's (2009). Job performance refers to the behaviors performed by nurses that directly contribute to the organization's technical core; and the behaviors that keep the technical core functioning which includes more discretionary behaviors that help the hospital function. Spiritual intelligence refers to a set of mental capacities of nurses that contribute to the awareness, integration, and adaptive application of the non-material and transcendent aspects of nurses' existence, which leads to nurses' deep existential reflection, enhancement of meaning, recognition of a transcendent self, and a mastery of spiritual states. When an employee acquires high spiritual intelligence, it should improve their contribution to tasks at workplace and helps connect them with the organization and loyal to the organization. In this study, the relationship between spiritual intelligence and each dimension of job performance among nurses in tertiary hospitals of Honghe was identified.

CHAPTER 3

Methodology

This chapter describes the methodology of the study, which includes research design and setting, populations and sample, research instruments, protection of human subjects, data collection procedure, and data analysis procedures.

Research Design and Setting

A descriptive correlational study design was used to explore the spiritual intelligence and job performance and to examine the relationship between spiritual intelligence and job performance of nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China. The data were collected from the three hospitals in Honghe which include:1) The First People's Hospital of Honghe State, 2) The People's Hospital of Gejiu City, and 3) The Third People's Hospital of Honghe State.

Population and Sample

Population

The target population of this study included 1618 nurses, 538 from the First People's Hospital of Honghe State, 645 from the People's Hospital of Gejiu City, 435 from the Third People's Hospital of Honghe State, the People's Republic of China. The subjects was nurses working in any clinical department including Medical Department, Surgical Department, Pediatric Department, Obstetrics and Gynecology (OB-GYN), Operation Room (OR), Emergency Room (ER), Out Patient Department (OPD), and Intensive Care Unit (ICU).

Sample

The sample size of this study was calculated by using Yamane's (1973) formula at the level of significance 0.05 to calculate the sample size. The calculating process was as follows:

$$n = \frac{N}{1 + (e)^2}$$

n = is the minimum sample size,

N = is population of sample, and

E = is the probability of error

Thus the sample size:

$$n = \frac{1618}{1 + 1618 \times (0.05)^2} = 321$$

According to the above formula, the sample size required in this study was 321 nurses. Once the possible loss of samples considered, 20% of the sample size (Burns & Grove, 2005) should be added. Therefore, an additional 64 nurses were added into the group, the total number of the sample size was 385.

The inclusion criteria for sample selection was the nurses who were wiling to participate in this study.

The exclusion criteria were 1) nurses who are on vacation or participated in reliability test; 2) nurses who are working in an administrative position and only focus on administrative work; 3) nurses who have been working in any department for less than 1 year.

Sampling Method

In this study, the stratified random sampling method was used to recruit nurses from the three hospitals, the details are described below:

1. Adopting the stratified random sampling method was used to calculate the number of nurses in each hospital. The samples were from each hospital as follows: the population for the First People's Hospital of Honghe State was 538, and the sample size was 128 (33.2%); for the People's Hospital of Gejiu city the population was 645, and the sample size was 153 (39.8%); The population for the Third People's Hospital of Honghe State was 614, and the sample size was 104 (26.9%).

2. In each hospital, nurses were recruited from eight departments which are Medical Department, Surgical Department, Pediatric Department, OB-GYN, OR,ER, OPD, ICU.

3. The number of nurses that needed to be recruited in each nursing department was calculated in each hospital.

4. The same nurses were selected from each department by the random sampling method from the name list that was provided by the nursing department of each hospital. The number of population and sample in each hospital and department are showed in table 3-1.

Table 3-1

The Number of Population and Sample in Each Hospital and Clinical Department

Clinical Nursing Department	The First People's Hospital of Honghe State		The People's Hospital of Gejiu City		The Third People's Hospital of Honghe State	
	population	sample	population	sample	population	sample
Medical Department	179	43	201	48	135	32
Surgical Department	119	28	147	35	104	25
Pediatric Department	39	9	45	11	26	6
Obstetrics and Gynecology	41	10	53	12	32	8
Operation Room	38	9	50	12	33	8
Emergency Room	35	8	56	13	39	9
Out Patient Department (OPD)	56	14	60	14	37	9
Intensive Care Unit	31	7	33	8	29	7
Total	538	128	645	153	435	104

Research Instrument

The instrument of this study consisted of three parts: the demographics data form, the Spiritual Intelligence Self-Report Inventory (SISRI-24) developed by King and DeCicco (2009) and the Chinese version Shortened Job Performance Scale (SJPS) which was translated from Greenslade (2008) by Lin (2012).

Part 1: Demographics Data Form

The demographics data form was developed by the researcher, it included open and close ended questions and contained gender, age, marital status, educational level, working experience as a registered nurse, department/section, and name of hospital, professional title and religion.

Part 2: Spiritual Intelligence Self-Report Inventory (SISRI-24)

Spiritual Intelligence Self-Report Inventory (SISRI-24) was developed by King and DeCicco (2009). It consisted of 24-items divided into 4 dimensions: critical existential thinking (7 items), personal meaning production (5 items), transcendental awareness (7 items), and conscious state expansion (5 items). This instrument was a five-point Likert scale, 0 = Not at all true of me, 1 = Not very true of me, 2 = somewhat true of me, 3 = Very true of me, 4 = completely true of me. The total score of spiritual intelligence was calculated by summing all sub-scale scores, and the score range was 0- 96. Scores for each dimension were calculated by summing the scores for all items contained within that dimension. Thus, the score range of critical existential thinking and transcendental awareness were both 0-28, and the score range of personal meaning production and conscious state expansion were both 0-20. However, question No. 6 was a reverse-coded item which needed to be revised before calculating scores. Higher scores represent higher levels of spiritual intelligence and/or capacity.

In Moradnezhad et al.'s (2017) study, a three-level scoring method was used to divide the mean score of spiritual intelligence into three levels: low, moderate and high; and this three-level scoring method was consistent with Kirk's (2007) dividing method. Thus, this study followed this division method that divides the mean score of spiritual intelligence into three levels. However, for the score of each dimension, the researcher

followed the original researcher's interpretation method that implies that higher scores represent higher levels, and did not divide it in specific levels. The interpretation of the total spiritual intelligence is showed in table 3-2.

Table 3-2

The Interpretation of Total Score of Spiritual Intelligence

Category	Low	moderate	High
Spiritual intelligence	0 - 32	32.01 - 64	64.01 - 96

The researcher translated this instrument by using a back-translation method (Waltz, Strickland, & Lenz, 2005). The process of translation followed the steps below:

1. The translation of the SISRI (English version) into Chinese was conducted by the researcher.

2. The Chinese version of SISRI was translated backward to English by a bilingual nursing expert who was blinded to the original English version.

3. The back-translated English version of SISRI was confirmed for the equivalent of this translated version with the original version by an English expert (native English speaker).

Part 3: The Chinese Version of the Shortened Job Performance Scale (SJPS)

The Chinese version of the Shortened Job Performance Scale was translated by Lin (2012) from Greenslade's (2008) Shortened Job Performance Scale without any modification. The Shortened Job Performance Scale (SJPS) included 25 items and was divided into task performance and contextual performance. Task performance contains social support (4 items), information provision (4 items), technical care (3 items); contextual performance contains interpersonal support (5 items), job-task support (4 items) and organizational support (5 items). The items included in task performance were answered with a 7-point Likert scales scoring from poor (1) to excellent (7). The questions contained in contextual performance were answered with a 7-point Likert scales scoring

from never (1) to often (7). The higher score represented the higher level of the task and contextual performance of nurses.

The level of job performance was divided into three levels which were low, moderate and high. According to the total score in task performance and contextual performance as permitted by Greenslade (Lin, 2012), the results were interpreted as showed in table 3-3.

Table 3-3

The Interpretation of Job Performance

Category	Low	moderate	High
Task performance	11.00-33.00	33.01-55.00	55.01-77.00
Social support	4.00-12.00	12.01-20.00	20.01-28.00
Information provision	4.00-12.00	12.01-20.00	20.01-28.00
Technical care	3.00-9.00	9.01-15.00	15.01-21.00
Contextual performance	14.00-42.00	42.01-70.00	70.01-98.00
Interpersonal support	5.00-15.00	15.01-25.00	25.01-35.00
Job-task support	4.00-12.00	12.01-20.00	20.01-28.00
Organizational support	5.00-15.00	15.01-25.00	25.01-35.00

Validity and Reliability of the Instruments

The validity of Spiritual Intelligence Self-Report Inventory (SISRI-24) and Shortened Job Performance Scale (SJPS) had been testified and certified by the authors as well as the previous studies (Hariri & Zarrinabadi, 2011). The Chinese version of SJPS was translated by Lin (2012) without any modification, and the Chinese version of SISRI was translated by the researcher also without any modification. Therefore, the validity of these two instruments was not tested again in this study.

In this study, the reliability of the SISRI-24 and SJPS were tested by the 20 nurses recruited from the first people's hospital of Honghe by the random method because these nurses had similar criteria as the subjects in the study setting. The alpha coefficient of overall SISRI-24 was .95 and the alpha coefficients of sub-scale critical existential

thinking, personal meaning production, transcendental awareness and conscious state expansion were .82, .83, .83, and .86, respectively. The Cronbach's alpha coefficient of task performance and contextual performance were both .92. The reliability result of the test was more than 0.8, which is considered acceptable (Burns & Grove, 2005). Thus, the two instruments of this study were acceptable.

Protection of Human Subjects

Before conducted this study, the approvals from the research ethics and data collection was acquired from the Research Ethics Review Committee of the Faculty of Nursing, Chiang Mai University, Thailand as well as obtained the permission of each hospital included in the study. The informed consents of the study were distributed to participants to let them understand the purpose and method of the study. Participants were asked to sign their name on the informed consent if they were willing to participate in the study. However, each participant participating in the study was voluntary and had the right to stop and withdraw from the study at any time without penalty or loss of benefit. The contents of each questionnaire did not include personal, sensitive or private information. To ensure their human rights were protected, in the whole study process, anonymity and confidentiality were guaranteed for each of the participants; only code numbers were used for questionnaires follow-ups in case there was no response from a subject. All the information provided by the participants was kept confidential and was used only to analyze research results, without revealing their identity or any use for other purposes.

Data Collection Procedure

The data collection was implemented from February to April, 2019 from 3 tertiary hospitals in Honghe. The implementing steps were as follows:

1. After obtaining approval from the Graduate School, and the Research Ethics Review Committee of the Faculty of Nursing, Chiang Mai University, the researcher submitted all documents, including: the research proposal, an application letter of permission to collect data, an informed consent and a copy of data collection instrument

(Chinese version) to the nursing directors of 3 hospitals respectively for the permission to collect data.

2. After obtaining the data collection permission from the nursing director of each hospital, two coordinators who were assigned by the nursing director of each hospital were asked to join the data collection process.

3. These two coordinators were required to help the researcher distribute and collect questionnaires. Before coordinators started working, the researcher met coordinators and clearly explained the purpose, benefits, and procedure as well as the human right protection aspects of this study and got their acknowledgement and support.

4. The researcher used a random sampling method to select the samples from the name list of nurses in the nursing department of each hospital. Nurses who participated in the reliability test were excluded from the sampling.

5. The researcher and two research coordinators distributed a total of 385 questionnaires to all participants. All participants were requested to complete the forms during their private time.

6. The participants were asked to return the questionnaires and consent forms in separate sealed envelopes within two weeks after the questionnaire was distributed. They could return the questionnaire by putting it in the two separated boxes that were prepared by the researcher before, in front of the nursing department. The two boxes were closed and only the researcher could open them; one box was used to collect questionnaires and the other was used to collect informed consent forms.

7. There were 366 questionnaires returned with a response rate of 95.06% within two weeks in sealed envelopes to the researcher's questionnaire box in each hospital.

8. The researcher checked the collected questionnaires before data analysis, there were 334 questionnaires that were completed for data analysis which was 86.75% of the questionnaires distributed.

Data Analysis Procedures

The data was scrutinized by the researcher before data analysis, data was analyzed by using the Statistical Package for the Social Sciences (SPSS), English version 13, and the significant level was set at .05. The data analysis procedures were addressed through the following steps:

1. Demographics data of nurses were analyzed by using frequency, percentage, mean and standard deviation.

2. Mean and standard deviation were used to analyze the level of spiritual intelligence and job performance.

3. The relationships between spiritual intelligence and task performance and contextual performance were analyzed by using Pearson-Product-moment correlations. The data showed a normal distribution (Sig > .05) after testing by Kolmogorov-Smirnov test (Appendix P). The graph's shape of scatterplot of task performance and spiritual intelligence showed that there was a linear relationship (r^2 = .099); of contextual performance and spiritual intelligence (r^2 = .11) (Appendix Q). The Homoscedasticity test of task performance and spiritual intelligence and contextual performance and spiritual intelligence are showed that the data is in homoscedasticity (r^2 = .901; r^2 = .89 respectively) (Appendix R).

4. According to Burns and Grove (2010), r = < .30 refers to a weak relationship; r = .30 - .50 refers to a moderate relationship; and r > .50 refers to a strong relationship.

CHAPTER 4

Findings and Discussion

This chapter contains the results and discussion section of this study. In the finding section, the descriptive data and correlation data of variables are presented. In the discussion section, the level of spiritual intelligence, levels of task and contextual performance and relationships between spiritual intelligence and task performance as well as contextual performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China, are explained.

Findings

This section is presented in three parts: Part I shows the demographics data of samples; Part II shows the values of overall and each dimension of spiritual intelligence, task performance and contextual performance; Part III shows the relationship between spiritual intelligence and task performance as well as contextual performance among nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China.

Part I: The Demographics Data of the Samples

The demographics characteristics of 334 samples are presented in Table 4-1.

Table 4-1
Number, Percentage, Mean, Standard Deviation, and Demographic Characteristics of the Samples (n = 334)

Characteristics	Frequency	Percentage
Age (Mean = 31.02, SD = 7.58, range = 20-55)		
20-25	74	22.16
26-35	184	55.09
36-45	47	14.07
46-55	29	8.68

Table 4-1 (continued)

Characteristics	Frequency	Percentage
Gender		
Male	11	3.29
Female	323	96.71
Educational level		
Diploma	158	47.31
Bachelor	176	52.69
Marital status		
Single	99	29.64
Married	220	65.87
Divorced\Separation or widowed	15	4.49
Religion		
None	323	96.7
Muslim	8	2.40
Buddhism	3	0.90
Professional title		
Professor	2	0.60
Associate professor	13	3.89
Assistant professor	65	19.46
Senior nurse	167	50.00
Junior nurse	87	26.05
Working department		
Medical Department	97	29.04
Surgical Department	85	25.45
Obstetrics and Gynecology (OB-GYN)	32	9.58
Pediatric Department	25	7.49
Intensive Care Unit (ICU)	21	6.29
Emergency Room (ER)	27	8.08
Operation Room (OR)	22	6.58
Out Patient Department	25	7.49

Table 4-1 (continued)

Characteristics	Frequency	Percentage
Number of working year (Mean = 10.19, SD = 7.43, range = 2-34)		
1-5	56	25.75
6-10	134	40.12
11-20	77	23.06
21-30	25	7.48
31-35	12	3.59

As shown in Table 4-1, among the 334 samples, a majority of them were from medical departments (29.04%) and surgical departments (25.45%). Most of the samples (96.71%) were female with an average age of 31.02 years old (SD = 7.58), and more than half (55.09%) of them were aged from 26 to 35 years old. The majority of the nurses (65.87%) were married and held a bachelor degree (52.69%). Participants holding the "senior nurse" professional title formed the largest proportion (50.00%), followed by junior nurses (26.05%), both of them are primary levels of professional title and accounted for the biggest proportion (76.05%). The number of working years of the participants ranged from 2 to 34 years, with a mean score of 10.19 years (SD = 7.43). Most of them (65.87%) had been working for 1-10 years and 40.12% of them working for 6-10 years. In terms of religion, there were 96.70% of the participants without any religion.

Part II: The Descriptive Data of Spiritual Intelligence and Job Performance of Samples

Spiritual intelligence of samples. Descriptions of the spiritual intelligence of nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China are presented in Table 4-2.

Table 4-2

Range, Mean, Standard Deviation, and the Level of Total Spiritual Intelligence and in Each Dimension of Spiritual Intelligence of the Samples (n = 334)

Spiritual intelligence	Range	Mean	SD	Level
Total	9-90	49.99	16.13	Moderate
Critical existential thinking	0-26	12.61	5.32	
Personal meaning production	1-20	12.39	4.01	
Transcendental awareness	2-28	15.56	4.84	
Conscious state expansion	0-20	9.43	4.21	

Table 4-2 indicates that participants possessed a moderate level of overall spiritual intelligence ($\overline{X}$ = 49.99, SD = 16.13). Among these four dimensions of spiritual intelligence, the highest mean score was transcendental awareness ($\overline{X}$ = 15.56, SD = 4.84), while the mean score of conscious state expansion was the lowest ($\overline{X}$ = 9.43, SD = 4.21). The mean score of critical existential thinking and personal meaning production were 12.61 and 12.39, respectively.

Job performance of samples. Job performance includes task performance and contextual performance, and these two dimensions can not be combined. Thus, the descriptive data of job performance are presented by task performance and contextual performance separately as showed in table 4-3.

Table 4-3

Range, Mean, Standard Deviation, and the Level of Task Performance and Contextual Performance of the Samples (n = 334)

Domain of Job Performance	Range	Mean	SD	Level
Task performance	19-77	53.40	12.64	Moderate
Social support	4-28	17.90	5.27	Moderate
Information provision	7-28	19.37	5.20	Moderate
Technical care	4-21	16.13	3.79	High
Contextual performance	20-98	67.33	15.31	Moderate
Interpersonal support	5-35	25.72	5.97	High
Job-task support	4-28	17.03	5.26	Moderate
Organizational support	9-35	25.03	5.98	High

As illustrated in Table 4-3, nurses perceived the overall task and contextual performance both at a moderate level. The score of task performance ranges from 19 to 77 with a mean score of 53.40 (SD = 12.64) and contextual performance ranges from 20 to 98 with an average score of 67.33 (SD = 15.30). Two of the three dimensions of task performance, including social support and information support were both at a moderate level, while the dimension of technical care was at a high level. For the dimension of contextual performance, both interpersonal support and organizational support were at a high level, while job-task support was at a moderate level.

Part III: Relationship between Spiritual Intelligence and Task Performance and Contextual Performance of the Samples

This part demonstrates the correlation data of spiritual intelligence and job performance of nurses in tertiary hospitals of Honghe, Yunnan province, the People's Republic of China. The correlation data of variables are shown in table 4-4.

Table 4-4

The Relationships between Spiritual Intelligence and Task and Contextual Performance of the Samples (n = 334)

	Spiritual intelligence
Task performance	.32**
Contextual performance	.33**

**p < 0.01

The results of Pearson-Product-moment coefficient show that there was a moderate positive relationship between spiritual intelligence and task performance (r = .32, p < .01), and between spiritual intelligence and contextual performance as well (r = .33, p < .01).

Discussion

The results of this study are discussed in three parts according to the research objectives.

Part I: Spiritual Intelligence among Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China

The results of this study show that nurses in tertiary hospitals of Honghe perceived the overall spiritual intelligence at a moderate level ($\overline{X}$ = 49.99, SD = 16.13) (Table 4-2), which is consistent with the previous studies of Moradnezhad et al. (2017) ($\overline{X}$ = 54.34, SD = 1.4) and Naji (2018) ($\overline{X}$ = 58.07, SD = 15.75) in Iran. However, the mean score of spiritual intelligence in this study was lower than previous studies, the difference may be due to different regions or countries that have different cultures and beliefs.

One possible explanation of the nurses perceiving a moderate level of spiritual intelligence in this study is the nature of the Chinese society. China is a socialist society, advocating materialism and objectivism, spiritual intelligence is rarely noticed (Yang & Mao, 2007). In China, atheism is the mainstream ideology (Xin Hua Net, 2016; Zhu, 2018), most people do not believe in the supernatural powers of God, goddess (Zhou, 2017) and 90% of Chinese have no religious beliefs (Lu, 2014). Nurses are affected by this kind of social environment, they rarely hear about spiritual intelligence (Yang & Mao, 2007), they may even ignore it. Another explanation is that nurses tend to deal with actual problems, rather than non-material or transcendental issues at work (Yang, 2006). In the nursing area, evidence-based practice was widely used and had become a trend in the development of nursing (Hu, 2013; Youngblut & Brooten, 2001). Thus, nurses' work is guided by the actual knowledge that comes from nursing practice rather than non-material awareness. Moreover, nursing is a science (Rogal & Young, 2008) which focuses on developing nurses' logic and critical thinking skills to solve problems at work, nurses may always pay attention to solve the actual problems and pay little attention to abstract problems. Therefore, rarely thinking about abstract and non-material things may affect nurses' spiritual intelligence.

Another more reasonable explanation is connected with demographics data of the samples. Nurses' spiritual intelligence positively related to their religion (Yang, 2006; Yang & Mao, 2007). However, the majority of (96.70%) the samples in this study have no religion (Table 4-1). In addition, male were superior to famale in terms of spatial ability, abstract thinking ability and logical reasoning ability (Hu, 2015), the spiritual intelligence of male were higher than that of female (Ilyas & Arshad, 2017; Kalantarkousheh et al., 2014; Kushwaha, 2014), while a majority of nurses (96.71%) in this study were female, this may lead to the overall spiritual intelligence not scoring high.

However, nurses in this study still perceived a moderate level of spiritual intelligence. It means that nurses felt they somewhat acquired this mental capacity. One possible explanation is to do with the demographics data of this study since higher age had a higher score of spiritual intelligence (Khandan et al., 2017; Nouhi, Nakhaee & Rahimi, 2014), nurses with the age of 40 and above got the highest score of spiritual intelligence (Yang & Mao, 2007). In this study, 22.75% of nurses were more than 36 years old (Table 4-1). In addition, work experience was positively related to spiritual intelligence (Khandan et al., 2017; Yang, 2006). Nurses who had 5 to 10 years of nursing experience got the highest score of spiritual intelligence (Yang & Mao, 2007) In this study, majority of nurses (40.12%) had 6-10 years of work experience (Table 4-1). During work, nurses contacted more and more patients and experienced more and more life and death, this led them to reduce their fear of death, avoid reduction and take a positive attitude towards life (Liu et al., 2013). Thus, nurses may think more about life and death and reality, which could improve their spiritual intelligence. Furthermore, nurses with more than 10 years of work experience also got high score of spiritual intelligence (Yang, 2006), 34.13% of nurses had more than 10 years work experience in this study. Nurses that have more work experience will have more experience in resolving problems which may help nurses summarize their experience and find their meaning and then help them improve their spiritual intelligence. Therefore, nurses in this study perceived a moderate level of spiritual intelligence.

The results of the four dimensions of spiritual intelligence among nurses in this study is discussed as follows:

Critical existential thinking. Critical existential thinking relates to the capacity to critically contemplate meaning, purpose, and other existential or metaphysical issues, such as actuality, cosmology, space, time and death. The results of this study show that nurses perceived critical existential thinking at a mean score of 12.61 (SD = 5.32) (Table 4-2). It was lower than that of the previous study of Naji (2018) in Iran ($\overline{X}$ = 17.39, SD = 5.24); this difference may be due to different samples. In Naji's study, nurses were working in oncology departments, which required nurses to frequently take care of patients facing an imminent death. Thus, nurses in this department may have had more experiences about life and death, they may have gained more understanding of existential questions.

One possible explanation is that critical thinking was an essential ability of critical existential thinking (King & DeCicco, 2009), and critical thinking had received some increased attention and was considered one of the capabilities that nursing professionals must possess in China (Xu et al., 2006). Thus, this ability may help nurses comprehensively consider existential problems.

However, the critical thinking of clinical nurses was at a lower middle level in China (Gao, 2011) and the critical thinking of nurses in Yunnan province needs to improve through training (Wang et al., 2016), which may affect the score of this dimension. Moreover, due to the implementation of "high-quality care" and overall care, nurses' work-related stress and workload showed an increased tendency (Huang, Lin, Huang, & Zhao, 2013); nurses may have no time and energy to consider the objectively existing problems (such as cosmology, space, time). On the other hand, nurses always evade some objective problems such as death, most nurses consider death as the permanent disappearance of life (Liang et al., 2007) when facing patients' death, they can feel fear and resistance and always want to avoid the fact of death and avoid the discussion of death (Yang & Duan, 2010). Another possible explanation may be due to the majority (77.25%) of nurses being less than 36 years old (Table 4-2); their main work was improving their professional abilities in taking care of patients. It may be difficult for them to critically consider non-professional issues. Thus, the score of critical existential thinking was not high.

Personal meaning production. Personal meaning production refers the ability to construct personal meaning and purpose in all physical and mental experiences, including the capacity to create and master a life purpose. The results of this study show that nurses perceived personal meaning production at a mean score of 12.39 (SD = 4.01) (Table 4-2). It was consistent with the previous study of Naji (2018) in Iran ($\overline{X}$ = 12.75, SD = 3.54). This similar result may be due to the fact that all participants of these two studies were nurses.

One possible explanation may be due to the traditional cultural and working environment in China; nurses may find it difficult to use their physical and mental experiences to create their meaning and purpose, since most of their experience showed that nursing was a low meaningful job. In Chinese traditional views, nursing is not perceived as an independent science, nurses always obey physicians (Zhao et al., 2007). Moreover, the social status of nurses is also lower than the physicians' (Fang, 2008; Feng, Wang, Xue, & Sun, 2002; Hong & Yang, 2004; Xu & Yang, 2001). Thus, nurses thought of nursing as a low meaning career, nearly half (46.5 %) of nurses thought of nursing only as a means of livelihood (Zhang &Yang, 2010) and they thought that personal value was very difficult to achieve in China (Wang et al., 2013). Therefore, it seems like the nurses' working environment was not conducive to their creating individual meaning and purpose in China. What's worse is that the survey shows that about 52.5% of nurses have no clear goal for their future career development in China (Xin Hua Net, 2017), so nurses do not even know what they should do, it is therefore difficult to create their meaning and purpose in work. According to all of the above, nurses perceived the score of personal meaning production as not high.

Transcendental awareness. Transcendental awareness refers to the ability to perceive transcendental aspects of oneself (e.g., transcendent self), others and the physical world (e.g., non materialism, interconnectedness) during the normal, waking state of consciousness. The results of this study show that transcendental awareness as perceived by nurses received the highest score ($\overline{X}$ = 15.56, SD = 4.84) of the four dimensions (Table 4-2), but lower than that of the previous study of Naji (2018) in Iran ($\overline{X}$ = 16.24, SD = 4.82).

One possible reason is that the nurse manager in China pays attention to the ability development of nurses to see the essence through appearances, which is a method to teach nurses to find the essence behind things by observing, analyzing and summarizing the problems in clinical work (Huang, Xiao, Zou, & Li, 2017). This method was widely used to solute many clinical problems in China, such as in emergency care, nursing communication and clinical teaching (Huang et al., 2017; Xie & Liu, 2016; Zhang, 2009). This may lead nurses to better perceive the transcendent aspects of oneself, others and the physical world. Moreover, a successful transcending individual is a person who could transcend personal limits by combining personal goals with larger goals, such as the well-being of family, community, humanity, the planet, or the universe (Csikszentmihalyi, 1993). In the Chinese hospitals, the majority of nurses and physicians stay in a specific department without transferring to other departments, so there is a stable relationship between doctors and nurses and they work for the interests of the department. Most individuals will integrate their own goal to the goal of the department since individual goals will be achieved only when departmental goals are achieved. Another one more reason may be explained by the mean score of items, the highest mean score item was item 20 followed by item 6, and these two items are contained in transcendental awareness dimension (Appendix N).These may be the reasons why nurses attributed the highest score to transcendental awareness among the four dimensions.

However, the transcendental awareness is often said to exist outside of ordinary consciousness, such as non-materialism, holism, interconnectedness, and transcendent aspects of the self and others (King & DeCicco, 2009). China is a society that advocates objectivism and materialism, this ideology may result in people having difficulties to perceive non-materialism in the world and the transcendent aspects of oneself or others. Therefore, compared with some previous studies and with the total score of this dimension, the score of this dimension was not high.

Conscious state expansion. Conscious state expansion refers the ability to enter spiritual states of consciousness such as pure consciousness, cosmic consciousness, and oneness at one's own discretion. The results of this study show that the nurses perceived conscious state expansion at the lowest score ($\overline{X}$ = 9.43, SD = 4.21) (Table 4-2), and it was lower than the results from the previous study of Naji (2018) in Iran ($\overline{X}$ = 11.68,

SD = 4.09). This difference may be due to different religions in different countries and also most people in China display no religious affiliation.

Religion and spirituality were regarded as the deeply rooted aspects of expanding or altering the conscious state (James, 2002; Maslow, 1964). However, almost all (96.70%) nurses stated they had no religion so this may be the main reason why nurses perceived the lowest score of conscious state expansion. Furthermore, atheism is the mainstream ideology in China (Xin Hua Net, 2016; Zhu, 2018), most people do not believe that the supernatural powers of God and goddess exist (Zhou, 2017). Thus, it's very difficult for them to enter or to expand higher spiritual states of consciousness at their own discretion, these may have led nurses to attribute the lowest score of this dimension.

Part II: Job Performance among Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China

In this part, the level of task performance and contextual performance of nurses in tertiary hospitals of Honghe, the People's Republic of China are explained and discussed.

Task performance. The results show that the overall task performance was at a moderate level ($\overline{X}$ = 53.40, SD = 12.64) (Table 4-3), in accordance with the previous studies of Lin (2012) ($\overline{X}$ = 43.98, SD = 1.52) in Yunnan province, and Tong (2018) ($\overline{X}$ = 48.73, SD = 7.71) in Harbin, China. However, this result is lower than that of the previous studies of Fathimath (2012) ($\overline{X}$ = 57.76, SD=9.39); Jeeza et al. (2015) ($\overline{X}$ = 59.02, SD = 11.97) in Maldives; Bai (2018) ($\overline{X}$= 57.37, SD = 10.03) in Kunming, China and Kanyana et al. (2018) ($\overline{X}$ = 58.72, SD = 7.37) in Thailand.

This result of the study shows that nurses provided not good enough task performance for patients in the tertiary hospitals of Honghe. One possible explanation is based on the demographics data of the samples. The majority (76.05%) of nurses held a "junior nurse" or "senior nurse" title (Table 4-1), both of these professional titles were the primary titles and the nurses in these two job levels still needed to attend a professional training to improve their task performance (Pu, 2010). However, Nurses with 5-15 years of work experience perform a high level in direct patient care (Chang, Chou, & Cheng, 2006), and

education positively related to nurses' job performance (Tzeng, 2004). In this study, Majority of nurses (40.12%) had 5 to 10 years of work experience, and 52.69% of nurses held a bachelor degree (Table 4-1). Thus, nurses provided a moderate level of task performance.

Task performance included three sub-dimensions: social support, information support and technical care concerning behaviors directly targeting the patients. In this study, the results of social support ($\overline{X}$ = 17.90, SD = 5.27) and information support ($\overline{X}$ = 19.37, SD = 5.20) were both at a moderate level, but the result of technical care was at a high level ($\overline{X}$ = 16.13, SD = 3.79) (Table 4-3). The level of each sub-dimension of task performance is discussed below.

Social support refers to the provision of emotional support and comfort to patients and their families; the study shows that the nurses' social support was at a moderate level. One possible explanation is that since the implementation of high-quality nursing in 2011 in Honghe (Ministry of health of China, 2015), nurses have had to be patient-centered while meeting the psychological and emotional needs of patients (Ao & Guo, 2013). However, nurses were paying more attention to the behaviors that are the most urgent and the most necessary for patients such as medication administration, intravenous injections, indwelling catheters and respiratory needs (Lan et al., 2007), which may lead them not to pay enough attention to the emotion needs of patients (Wang et al., 2009). In addition, the medical environment of China is not optimistic at present and in order to deal with patients' future complaints, nurses need to record a lot. The amount of time a nurse spends for writing records is 1.6 of the time needed for caring for patients, they do not have time to look after patients in details and to understand their mood and the treatment effects (Zhu, 2010). Moreover, due to the nursing shortage, nurses in the tertiary hospitals of Honghe are under a great workload and pressure, every nurse must care more than 8 patients on day shift and during night shift one nurse need to care more than 30 patients; they are busy with teaching nurses from low level hospitals and nursing students and they need to care of patients referred from low-level hospitals. Thus, they cannot timely and comprehensively consider the emotional needs of patients (Tian, 2012) and provide sufficient emotion support to the patient (Gurses, Carayon, & Wall, 2009; Yang, Shao, Yang, Ying, & Dong, 2009). Another more reasonable explanation is that nurses caring

for the patient's psychological and emotional needs will bring more workload onto themselves without extra pay (Chen, 2005). Thus, nurses provided a moderate level of social support in this study.

Information provision relates to the provision of relevant information to patients and their family members. It includes providing information and education about the condition and treatment of patients. In this study, nurses provided a moderate level of information support. In Honghe, taking the first people's hospital of Honghe state, there were patient education evaluation forms to guide the nurses on how to provide information support to the patients. This evaluation form consists of admission guidance, disease guidance, medication guidance, examination guidance, surgery guidance, and rehabilitation and discharge guidance. From the admission to the discharge of patients, nurses implement information support based on the contents of this table. Each time nurses finished the education, they ticked the corresponding entries and the head nurse would randomly recheck the patient's mastery of health education. Thus, nurses provide some information support to patients and their families.

However, nurses are often seen as the doctors' helpers (Qiao & Wang, 2010), under the influence of this concept, patients always believe the doctor's information and are suspicious of the information provided by nurses. If the information provided by doctors and nurses is inconsistent, patients will easily lower their trust of nurses (Zhao, 2012). Thus, nurses may not be willing to provide information support to patients and their families. Furthermore, most nurses in China believe that providing information on diagnosis, treatment and illness recovery to patients was the responsibility of doctors (He, Gao, & Li, 2004); this may be another reason why nurses provided a moderate level of information support. On the other hand, despite health education and clinical nursing being equally important (Chen, Yu, & Sun, 2002), 85% of nurses ignored the important effects of health education and discharge instructions (Bao & Gu, 2001) in their work. Therefore, lacking awareness of the importance of health education may be another reason why nurses perceived a moderate level of information support.

Technical care of nurses was at a high level in this study. Technical care refers to the nursing behaviors that contribute to the technical care of the nursing profession, such as managing medication and treatment of patients. One possible explanation is that nurses

must provide medication treatment or patient monitoring with good quality in their work (Lin, 2012). Both hospitals and nurses attached great importance to improving nurses' technical care, some hospitals even evaluate nurses based on their performance of technical care (Wan & Huang, 2007). In addition, education and training were crucial to improving the performance of nurses (Tzeng, 2004), more than half (52.69%) of nurses held a bachelor degree (Table 4-1) and hospitals often organized training for nurses technical care in Honghe. Another one more explanation may due to the percentage and frequency of items in technical care, more than half of participants choose the score of 6 and 7 for item 10 and 11 which means nurses provide excelent performance for these items (Appendix O). Thus, nurses attributed a high level of technical care.

Contextual performance. The results show that the overall contextual performance was at a moderate level ($\overline{X}$ = 67.33, SD = 15,31) (Table 4-3), which is consistent with the previous studies of Fathimath (2012) ($\overline{X}$ = 64.45, SD=12.95) and Jeeza et al. (2015) ($\overline{X}$ = 64.62, SD = 14.67) in the Maldives. This result is also similar to previous studies conducted in China, Lin (2012), Tong (2018) and Bai (2018) also found the overall contextual performance to be at a moderate level, with a mean score of 49.43, 60.43 and 53.2, respectively. However, this result is lower than that of the previous studies of Kanyana et al. (2018) ($\overline{X}$ = 72.00, SD = 10.54) in Thailand.

Contextual performance was defined as the behaviors that support the broader environment in which the technical core must function such as helping and cooperating with others, following organizational rules and supporting organizational objectives (Greenslade & Jimmieson, 2007). One possible explanation for this finding is that there were some nurses in Honghe who were willing to work late to meet the needs of patients and their families, even after their shift was completed. However, the majority (96.71%) of nurses were female and 65.87% of them were married (Table 4-1), so they may have had to hurry to finish their tasks and go home to be with their family or children, which may hinder nurses implementing sufficient discretionary behaviors. Hence, nurses perceived a moderate level of contextual performance in this study.

Contextual performance contained three sub-dimensions: interpersonal support, Job-task support, and organizational support. In this study, the results of interpersonal

support ($\bar{X}$ = 25.72, SD = 5.97) and organizational support ($\bar{X}$ = 25.03, SD = 5.98) were at a high level but the result of job-task support was at a moderate level ($\bar{X}$ = 17.03, SD = 5, 26) (Table 4-3). The level of each dimension of contextual performance is discussed below.

Interpersonal support refers to some behaviors of interaction between team members. In this study, nurses perceived a high level of this dimension which means nurses can provide better performance through collaboration with colleagues. One possible explanation is based on Chinese traditional culture that advocates helping each other, people like to help each other. In the nursing area, senior nurses always help junior nurses: according to the regulation of nursing management in Yunnan, a new nurse must work with a senior nurse in each shift for at least 3 months before they can work independently (Song et al., 2005); there were frequent interactions between junior and senior nurses and the junior nurses could get help and guidance from the senior nurses. Moreover, in China, most nurses work in a specific department from the moment they are newly recruited until retirement, without rotation so the relationships between nurses are stable (Chen, 2011), they may be more willing to help each other because of their long-term relationship. In addition, the hospital and department pay attention to increasing the interactions between nurses in Honghe. For example, the nurses in the first people's hospital of Honghe can participate to a nursing ward round in the department every month. The disease in the nursing round is a common disease in the department, which could help nurses share knowledge among the department. Furthermore, nurses can also join experience-sharing called "nursing gas station" every month in the department, during which nurses share some of their favorite things, new things or new knowledge in the team; all of these increase the correlation of the nursing team. Another explanation may due to more than half of participant choose the score of 6 and 7 for item 15 and 16, nurses provide a great deal of interpersonal support in their work (Appendix O).Thus, nurses perceived a high level of interpersonal support in this study.

The sub-dimension of job-task performance emphasized the behaviors beyond job requirements in providing patient care. In this study, nurses perceived a moderate level of job-task performance. One reasonable explanation may be due to some nurses stating that they were willing to do extra work for patients and their families even after work

(personal communication, 2019). However, nurses' heavy workload affected how they implemented job-task performance, since nurses who were already undertaking a huge workload found it difficult to undertake extra work requirements (Wang et al., 2007). Tertiary hospitals have the responsibility for providing the highest level of medical service and taking care of the majority of patients which means nurses have to face a huge workload in China (Ministry of Health of China, 2018). In this study, nurses were working in the tertiary hospitals of Hoghe and faced a heavy work load which may have affected their implementation of job-task performance. Additionally, in China, nurses must closely monitor the changes in patients' conditions at any time, make the correct judgment and give appropriate nursing care to prevent errors and accidents, otherwise they will bear corresponding legal responsibilities (Zhao, 2008). Thus, many nurses do not want to engender extra burden or potential risk to either themselves or others (Fan & Yang, 2008); they may not be willing to provide extra care for patients and their families. Therefore, nurses got a moderate level of job-task performance in this study.

Organizational support refers to the behaviors implemented by nurses to support the hospital, such as maintaining the good reputation of the hospital, ensuring no materials and equipment in the work are wasted (Greenslade & Jimmieson, 2007). In this study, nurses perceived a high level of organizational support which means nurses provide good support to the hospitals. One possible explanation is that nurses feel proud of working in the tertiary hospitals, they may be more willing to protect the reputation of the hospitals. Because the tertiary hospital represents the highest level of technology and service (Yunnan Province Bureau of Health, 2010) and people believe that only preeminent students have the opportunity to work in a tertiary hospital (Bai, 2012), nurses working in the tertiary hospitals thus feel proud and are willing to maintain the good reputation of the hospital, nearly half of participants provide a great deal of representing the hospital to individuals outside the hospitals (Appendix O). Additionally, with nursing development, the importance of nursing was gradually recognized by the hospitals leaders, patients and by society (Chen, 2011); nurses get respect from them, this may lead nurses to be willing to do more for the hospital. Another explanation may be due to more than half of nurses implement a great deal of making sure that materials and equipment are not wasted in their work (Appendix O). Therefore, nurses perceived a high level of organizational support in this study.

Part III: Relationships between Spiritual Intelligence and Job Performance among Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China

Three previous studies indicated that spiritual intelligence was positively related to job performance in different populations through different instruments (Estanesti, 2016; Khandan et al., 2017; Kimiyayi & Daryaee, 2016). The instrument of this study was inconsistent with the previous studies, therefore, the results of this study could not be compared with the previous studies. In this study, because job performance was divided into task performance and contextual performance, the relationships between spiritual intelligence and job performance as perceived by the nurses were discussed in two parts, specifically: 1) relationship between spiritual intelligence and task performance; and 2) relationship between spiritual intelligence and contextual performance.

Relationship between spiritual intelligence and task performance as perceived by nurses. The results of this study show that there was a significant positive relationship between spiritual intelligence and task performance ($r = .32$, $P < .01$) (Table 4-4). This finding indicates that nurses who acquired high spiritual intelligence will increase her/his task performance. The results supported King and DeCicco's (2009) spiritual intelligence model and the job performance model developed by Greenslade and Jimmieson (2007).

According to King and DeCicco's (2009) model, spiritual intelligence as a mental ability could help people think critically about existing problems. In clinical nursing, critical thinking ability is an essential ability helping nurses independently acquire information and meet the patients' needs (Zhang, 2005). Nurses who had a high level of spiritual intelligence may get a high level of critical thinking ability, which may lead them to provide superior task performance. Another reasonable explanation is that spiritual intelligence can lessen nurses' stress level and improve their attitude towards problems which makes them perform good nursing techniques (Rani et al., 2013). Nurses are under great pressure in their daily work (Wang, 2017) and their attitude towards work has a great influence on their work behavior (Rani et al., 2013), spiritual intelligence can reduce their work-related stress and enhance their work attitude which improves their task performance. In addition, people with higher spiritual intelligence will be more productive in their work (Tischler, Biberman, & Mckeage, 2002). When a nurse acquires

high spiritual intelligence, she/he will attain higher self-awareness and good sincerity which will increase performance and improve their contribution to tasks at the workplace (Haryono, 2018). Therefore, nurses' spiritual intelligence is positively related to their task performance; nurses who have more spiritual intelligence will provide higher task performance.

Another perspective on the results was supported by Greenslade and Jimmieson's (2007) job performance model. Task performance focuses on nurses' professional behavior, including providing emotional and information support to the patients and their families and managing the treatment of patients (Greenslade & Jimmieson, 2007). Nurses' spiritual intelligence reflected on their nursing practice through trusting and empathetic relationships (Elkins & Cavendish, 2004). Nurses could establish a good relationship with patients through empathy and trust, which helped nurses better meet the different needs of patients (Duan, Yan, & Zhao, 2015) and promote their task performance. Moreover, with a high level of spiritual intelligence, nurses will easily and quickly adapt to different kinds of changes and work patterns which improves their ability to solve work-related problems (Haryono, 2018), thereby improving their task performance.

Relationship between spiritual intelligence and contextual performance as perceived by the nurses. The results of this study show that there was a significant positive relationship between spiritual intelligence and contextual performance ($r = .33$, $P < .01$) (Table 4-4). This finding indicates that the higher spiritual intelligence nurses have, the better the contextual performance they can provide. This result supports King and DeCicco's (2009) spiritual intelligence model and Greenslade and Jimmieson's (2007) job performance model.

According to King and DeCicco's (2009) model, spiritual intelligence is a mental ability that helps individuals think existential issues critically and create personal meaning by themselves. Employees' spiritual intelligence helps them confirm the trust between each other (Kimiyayi & Daryaee, 2016), they may understand the relationships with colleagues critically and the critical thinking ability of nurses is the key to effective cooperation between nurses and others (Zhang, 2005). Thus, nurses' spiritual intelligence may increase their trust with each other and increase their cooperation, thereby improving

their contextual performance. Moreover, spiritual intelligence in the workplace can confirm loyalty, enhance the value of personal development and improve work attitudes (Kimiyayi & Daryaee, 2016). Nurses could use spiritual intelligence to achieve self-actualization and wellbeing by a spiritual attitude approach (Faribos, Fatemeh, & Hamidreza, 2010). Thus, nurses are loyal to the organization and achieving self-worth may contribute further to the organization which then contributes to their contextual performance.

Another explanation for this result may be based on Greenslade and Jimmieson's (2007) model where contextual performance focuses on nurses' discretionary behaviors that assist in the functioning of the hospital. Spiritual intelligence helps employees build strong relationships and align personal values with clear goals (Tee, Anantharaman, & Yoon, 2011). In the hospital, spiritual intelligence may help nurses align their own goals to the hospital's goals, help the hospital function better. Additionally, many studies have indicated that spiritual intelligence makes an employee more loyal to the organization and helps connect them with the organization (Awais, Malik, & Qaisar, 2015; EntesarFoumany & Danshdost, 2014; Kalantarkousheh et al., 2014). In the nursing area, Haryono' (2018) research confirms the above results. Thus, nurses' high level of spiritual intelligence increases their loyalty to the hospital and triggers more efforts made towards the success of the hospital, thereby improving their contextual performance. Thus, nurses' spiritual intelligence is positively related to their contextual performance.

CHAPTER 5

Conclusion, Implications, and Recommendations

In this chapter, the conclusion of this study, the implications of the findings for nursing administrators, and some recommendations for future research are presented.

Conclusion

This descriptive correlational study aimed to explore spiritual intelligence, job performance and examine the relationship between spiritual intelligence and job performance perceived by nurses in the tertiary hospitals in Honghe, Yunnan province, the People's Republic of China. Data were collected from February to April, 2019 by using a stratified random sampling method. The subjects were 334 nurses from three tertiary hospitals in Honghe, the First People's Hospital of Honghe State, the People's Hospital of Gejiu City, and the Third People's Hospital of Honghe State. The instruments used for data collection were a set of questionnaires consisting of three parts which included the Demographics data form, Spiritual Intelligence Self-Report Inventory (SISRI-24) and the Chinese version shortened job performance scale (SJPS). The reliability of SISRI-24 was .95 and the alpha coefficient of the sub-scales of critical existential thinking, personal meaning production, transcendental awareness and conscious state expansion were .82, .83, .83, and .86, respectively. Regarding the Chinese Version Shortened Nursing Performance Scale, the reliability of the task performance sub-scale and contextual performance sub-scale were both .92. Descriptive statistics and Pearson's Product-moment correlation were used for data analysis. The results are presented as follows:

1. The total spiritual intelligence as perceived by nurses was at a moderate level ($\overline{X}$ = 49.99, SD = 16.13). Nurses perceived the highest score of transcendental awareness ($\overline{X}$ = 15.56, SD = 4.84), followed by personal meaning production ($\overline{X}$ = 12.39, SD = 4.01)

and then critical existential thinking ($\bar{X}$ = 12.61, SD = 5.32) and the lowest score was conscious state expansion ($\bar{X}$ = 9.43, SD = 4.21).

2. The score of task performance and contextual performance were both at a moderate level. The score of task performance was 53.40 (SD = 12.64) and contextual performance was 67.33 (SD = 15.30).

3. There was a moderate positive relationship between spiritual intelligence and task performance ($r = .32$, $p < .01$) and there was a moderate positive relationship between spiritual intelligence and contextual performance ($r = .33$, $p < .01$).

Implications

The results of this study present the following implications for nursing practice:

1. Based on the results of this study, nurse managers should organize some training related to existential problems such as what happens after death to help nurses contemplate death. Moreover, nurses' administrators should recognize nurses' work, help them find meaning and purpose of work from their daily experience to improve nurses' ability of personal meaning production, improving nurses' spiritual intelligence.

2. Nurses' task performance and contextual performance need to be improved continually. According to the results of the study, nurse managers should organize some training on emotional support to help nurses know more about the importance of providing emotion support to patients and their families; and could make a recruitment plans and consider reasonable staff location to alleviate the shortage of nurses, give nurses more time to implement emotional support. Moreover, encourage and provide opportunities for nurses to improve nurses' professional knowledge, and conduct training related to providing instructions for care at home, help nurses improve their ability to provide information support to patients. In addition the nursing administrators could and rewarding nurses' extra performance may be another method to improve nurses' task-job performance.

3. The results of the relationship between spiritual intelligence and job performance of nurses should also remind nursing administrators of the new perspective of an

improvement of nurses' job performance through an increase in spiritual intelligence. In nursing work, managers need to cultivate the nurses' ability of seeing the essence through appearances, and guide nurses on how to combine personal goals with larger goals, such as the goals of the hospital and the goals of the unit in order to improve nurses' spiritual intelligence and therefore improving nurses' job performance as well as the quality of care.

Recommendations

The recommendations for future research are as follows:

1. Replicate this study but this time in primary, secondary and other tertiary hospitals in other regions of China, and the results could be compared with the present results in order to achieve a more comprehensive image of nurses' job performance and spiritual intelligence.

2. The spiritual intelligence in the different positions such as head nurses, supervisors and nurses need to be explored in future research to find and compare the differences between various job positions.

3. Nurses' spiritual intelligence and job performance could be improved by training and education. Intervention study of training and education on job performance and on spiritual intelligence of nurses should be conducted.

4. Predictive studies of spiritual intelligence on job performance to cover the related variables which can be used to improve spiritual intelligence and job performance of nurses.

REFERENCES

Aiken, L. H., Clarke, P. S., Sloane, M. D., Sochalski, A. J., Busse, R., Clarke, H., . . . Shamian, J. (2001). Nurses' reports on hospital care in five countries. *Health Affairs, 20*(3), 43-53.

Aiken, L. H., Clarke, S. P., & Sloane, D. M. (2002). Hospital staffing, organization, and quality of care: Cross-national findings. *International Journal for quality in Health Care, 14*(1), 5-14.

Al-Hamdan, Z., Oweidat, I. A., Al-Faouri, I., & Codier, E. (2017). Correlating Emotional intelligence and job performance among jordanian hospitals' registered nurses. *Nursing Forum, 52*(1), 12-20. doi:10.1111/nuf.12160

Amram, Y. (2007). *What is spiritual intelligence? An ecumenical, grounded theory*. Retrieved from http://yosiamram.net/docs/what_is_SI_Amram_wrkg_paper.pdf

Amram, Y., & Dryer, C. (2008). The integrated spiritual intelligence scale (ISIS): Development and preliminary validation. Paper presented at the 116th Annual Conference of the American Psychological Association, Boston, MA.

Ao, H. Y., & Guo, Y. Y. (2013). The discussion of the measures of high quality nursing service under the new situation. *Modern Medicine and Health, 29*(9), 1436-1437.

Awais, M., Malik, M. S., & Qaisar, A. (2015). A review: The job satisfaction act as mediator between spiritual intelligence and organizational commitment. *International Review of Management and Marketing, 5*(4), 203-210.

Bacaksiz, F. E., Tuna, R., & Seren, A. K. H. (2017). The relationships between organisational identification, job performance, and job crafting: A study among nurses. *International Journal of Caring Sciences*, *10*(1), 251-259.

Bai, K. Y. (2018). *Social support and job performance of ICU nurses in tertiary hospitals of Kunming, the People's Republic of China* (Unpublished master's thesis). Chiang Mai University, Thailand.

Bai, Y. J. (2012). *Organizational climate and self-efficacy among nurses in University hospitals, Yunnan province, the people's republic of China* (Unpublished master's thesis). Chiang Mai University, Thailand

Bao, J. M., & Gu, H. J. (2001). A national survey of nursing health education perceived by nurses in 98 hospitals across China [in Chinese]. *Chinese Journal of Nursing*, *36*(6), 448-450.

Barrett, C., & Myrick, F. (1998). Job satisfaction in preceptorship and its effect on the clinical performance of the preceptee. *Journal of Advanced Nursing, 27*, 364-371

Bartel, A. P. (1995). Training, wage growth, and job performance: Evidence from a company database. *Journal of Labor Economics*, *13*(3), 401-425.

Borman, W. C., & Motowidlo, S. J. (1993). Expanding the criterion domain to include elements of contextual performance. In N. Schmitt & W. C. Borman (Eds.), *Person election in Organizations*. San Francisco: Jossey-Bass.

Bott, J. P., Svyantek, D. J., Goodman, S. A., & Bernal, D. S. (2003) Expanding the performance domain: Who says nice guys finish last? *International Journal of Organizational Analysis*, *11*, 137-152.

Burns, N., & Grove, S. K. (2005). *The practice of nursing research: Conduct, critique, & utilization* (5th ed.). Missouri: Elsevier Saunders.

Burns, N., & Grove, S. K. (2010). *Understanding nursing research: Building an evidence-based practice.* St. Louis. Missourri: Elsevier Health Science.

Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In M. D. Dunnette & L. M. Hough (Eds.), *Handbook of industrial and organizational psychology* (2nd ed., 687-732). Palo Alto: Consulting Psychologists Press.

Caretto, V. A. (1986). Perceived changes in the performance of registered nurses who have acquired a Baccalaureate degree in nursing. *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *47*(12), 4294.

Carlos, V. S., & Rodrigues, R. G. (2016). Development and validation of a self-reported measure of job performance. *Social Indicators Research, 126*(1), 279-307.

Chang, P., Chou, Y., & Cheng, F. (2006). Designing career development programs through understanding of nurses' career needs. *Journal of Nurse Staff Development, 22*(5), 246-253.

Chen, G. Y., Yu, W. F., & Sun, Y. L. (2002). Several problems should be paid attention to in the implementation of nursing health education. *Chinese General Medicine, 5*(6), 481-481.

Chen, Y. (2005). The investigation of Patient's psychological intervention support. *China Nursing Administration, 12*(5), 23-26.

Chen, Y. C. (2011). *Work empowerment and organizational commitment among nurses in tertiary hospitals, Yunnan province, the people's republic of China* (Unpublished master's thesis). Chiang Mai University, Thailand.

Chinese National Development and Reform Commission. (2017*). The national nursing career development plan (2016-2020).* Retrieved from http://www.ndrc.gov.cn/fzgggz/fzgh/ghwb/gjjgh201707/t20170720_855027.html

Chinese National Health Commission. (2018). *The national council of health introduced the development of nursing in China*. Retrieved from http://www.gov.cn/xinwen/2018-05/10/content_5289954.htm#1

Cope, V., Jones, B., & Hendricks, J. (2016). Why nurses chose to remain in the workforce: Portraits of resilience. *Collegian*, *23*(1), 87-95.

Covey, S. R. (2005). *The 8th habit: From effectiveness to greatness* (1st ed.). New York: Free Press.

Csikszentmihalyi, M. (1993). *The evolving self: A psychology for the third millennium*. New York, NY: Harper Collins.

Deng, M. R. (2006). Development of critical thinking ability of clinical nurses. *Journal of JingGangShang Medical College*, *13*(6), 67-68.

Duan, P. F., Yan, L. Y., & Zhao, F. C. (2015). How to establish good nurse-patient relationship in clinical nursing work. *Medical Frontier*, *2*, 103-104.

Earls, A. (2004). Building patient loyalty. *Computer World*, *38*(38), 41-42.

Elkins M., & Cavendish R. (2004). Developing a plan for pediatric spiritual care. *Holistic Nursing Practice*, *18*(4), 179-186.

Emmons, R. A. (2000a). Is spirituality an intelligence? Motivation, cognition, and the psychology of ultimate concern. *The International Journal for the Psychology of Religion*, *10*(1), 3-26.

Emmons, R. A. (2000b). Spirituality and intelligence: Problems and prospects. The *International Journal for the Psychology of Religion*, *10*(1), 57-64.

EntesarFoumany, G. H., & Danshdost, M. (2014). The relationship of spiritual intelligence with mental health and organizational commitment among nurses in Mashhad hospitals. *Journal of Educational and Management Studies*, *3*(4), 36-39.

Estanesti, S. (2016). The study of impact spiritual intelligence on job performance of managers. *International Academic Journal of Organizational Behavior and Human Resource Management*, *3*(5), 1-8.

Fan, L. W., & Yang, H. (2008). Using colleague support system to relieve nurses' psychological stress [in Chinese]. *Chinese Nursing Journal*, *12*(7), 342-346.

Fang, J. B. (2008). *A model for predicting fatigue in Chinese nurses* (Unpublished doctoral dissertation). Chiang Mai University, Thailand.

Faribos, B., Fatemeh, A., & Hamidreza, H. (2010). The Relationship between Nurses Spiritual intelligence and Happiness in Iran. *Procedia Social and Behavioural Sciences*, *5*, 1556-1561.

Fathimath, S. (2012). *Quality of work life and job performance among nurses in the Tertiary Care Hospitals, Maldives* (Unpublished master's thesis). Chiang Mai University, Thailand.

Feng, T., Wang, L. L., Xue, L. P., & Sun, W. W. (2002). Studying progress of the mental health of community nurses [in Chinese]. *Journal of Chinese Nursing Research*, *16*(7), 384-385.

Fitzpatrick, J. M., While, A. E., & Roberts, J. D. (1997). Measuring clinical nurse performance: Development of the King's Nurse Performance Scale. *International Journal of Nursing Studies*, *34*(3), 222-230.

Fritzen, S. (2007). Strategic management of the health workforce in developing countries:what have we learned. *Human Resources for Health*, *5*, 4. doi:10.1186/1478-4491-5-4

Gao, M. H. (2011). Clinical nurses' critical thinking disposition and influence factors [in Chinese]. *Chinese Nursing Management*, *11*(12), 35-37.

Gardner, H. (1993). *Frames of mind: The theory of multiple intelligences*. New York: Harper Collins.

Ge, Y. X. (2011). Training nurses of the ability to correct errors and solve doubts [in Chinese]. *Chinese Nursing Management*, *11*(2), 69-70.

Greenslade, J. H. (2008). *The organisational factors impacting on patient satisfaction: An examination of service climate, effort, and performance* (Unpublished doctoral thesis). School of Psychology, University of Queensland, Australia.

Greenslade, J. H., & Jimmieson, N. L. (2007). Distinguishing between task and contextual performance for nurses: Development of a job performance scale. *Journal of Advanced Nursing, 58*(6), 602-611.

Gurses, P. A., Carayon, P., & Wall, M. (2009). Impact of performance obstacles on intensive care nurses' workload, perceived quality and safety of care, and quality of working life. *Health Services Research, 44*(2), 422-443.

Hariri, N., & Zarrinabadi, Z. (2012). A demographic analysis of librarians' spiritual intelligenc. Case study: governmental university libraries in Isfahan. *Library and Information Research Journal, 1*(2), 29-44.

Haryono, S. (2018). Effects of emotional and spiritual intelligence on job performance among temporary nurses at Abdul Riva'i Regional General Hospital, Berau District, East Kalimantan Province, Indonesia. *Management Issues in Healthcare System, 4*, 42-54.

Hassmiller, S. B., & Cozine, M. (2006). Addressing the nurse shortage to improve the quality of patient care. *Health Affairs, 25*(1), 268-274.

He, M. H., Gao, C. Y., & Li, D. M. (2004). Confusion and countermeasures of nursing management regarding to division director responsibility system [in Chinese]. *Modern Nursing, 10*(12), 1133-1135.

Hee, O. C., & Kamaludin, N. H. B. (2016). Motivation and job performance among nurses in the private hospitals in Malaysia. *International Journal of Caring Sciences*, 9(1), 342-347.

Hildebrant, L. S. (2011). Spiritual intelligence: Is it related to a leader's level of ethical development? *Dissertation Abstracts International: Section A. Humanities and Social Sciences*, *72*(4-A), 1365.

Hjortdahl, P., & Lxrum, E. (1992). Continuity of care in general practice: Effect on patient satisfaction. *The BMJ*, *304*, 1278-1290

Hong, Y., & Yang, B. P. (2004). Failure to promotion and sub-healthy status among Chinese nurses [in Chinese]. *Chinese Medical Research & Clinical*, *2*(8), 65-66.

Honghe State Bureau of Statistic. (2011). *The sixth national census data bulletin of Honghe Prefecture* [in Chinese]. Retrieved from http://www.hh.cn/communist/communist_document/201105/t20110517_353174.html

Hospital News. (2016). *The establishment of Honghe state nursing quality control center and the 2016 Honghe state nursing academic annual meeting, and the establishment meeting of Honghe state male nurses union*. Retrieved from http://www.hhzyy.com/c/newshow/470

Hu, X. (2015). *Cultural consciousness and logic: An interpretation based on historical materialism* [in Chinese]. China: Beijing Book.

Hu, Y. (2013). Evidence based nursing: the inexorable trend of nursing discipline development [in Chinese]. *Chinese Nursing Management*, *13*(1), 3-5.

Huang, S. F., Xiao, Y. R., Zou, D. X., & Li, R. J. (2017). A clinical case analysis of the characteristics of potential mortality risk in emergency patients. *Journal of Clinical Emergency Medicine*, *6*, 464-467.

Huang, X. X., Lin, B. F., Huang, P. Z., & Zhao, H. F. (2013). Survey of nurses' work stress after implementing high-quality care [in Chinese]. *Chinese School Doctor*, *27*(1).

Hunter, J. E. (1986). Cognitive ability, cognitive aptitudes, job knowledge, and job performance. *Journal of Vocational Behavior*, *29*(3), 340-362.

Ilyas, N., & Arshad, T. (2017). Spiritual intelligence, work-family conflict and psychological distress among university teachers. *Bahria Journal of Professional Psychology*, *16*(1), 1-25.

James, W. (2002). *The varieties of religious experience: A study in human nature*. New York, NY: Random House. (Original work published 1902).

Javaheri, H., Safarnia, H., & Mollahosseini, A. (2013). Survey relationship between spiritual intelligence and service quality. *Interdisciplinary Journal of Contemporary Research in Business, 4*(9), 547–554.

Jeeza, H., Hongkrailert, N., & Sillabutra, J. (2015). Effect of efficacy on nursing performance in Indira Gandhi Memorial Hospital, Maldives. *Journal of Public Health and Development*, *13*(2), 33-44.

Johnson-Miller, B. (2010). Spiritual intelligence: Discover your SQ, deepen your faith. *Christian Education Journal*, *7*(2), 470-473.

Kalantarkousheh, S. M., Sharghi, N., Soleimani, M., & Ramezani, S. (2014). The role of spiritual intelligence on organizational commitment in employees of universities in Tehran Province, Iran. *Procedia-Social and Behavioral Sciences*, *140*, 499-505.

Kanyana, B., Abhicharttibutra, K., & Chitpakdee, B. (2018). *Head nurses' motivating language and registered nurses' job performance, Government University Hospitals* (Unpublished master's thesis). Chiang Mai University, Thailand.

Karimi-Moonaghi, H., Gazerani, A., Vaghee, S., Gholami, H., Salehmoghaddam, A. R., & Gharibnavaz, R. (2015). Relation between spiritual intelligence and clinical competency of nurses in Iran. *Iranian Journal of Nursing and Midwifery Research*, *20*(6), 665.

Khandan, M., Eyni, Z., & Koohpaei, A. (2017). Relationship between spiritual intelligence and job performance: A case study of nurses and nursing aids in the main university hospital of Qom, Iran. *Psychology*, *2*, 4.

Kimiyayi, M., & Daryaee, S. (2016). Relationship between spiritual intelligence, emotional intelligence with occupational performance the guidance school teachers' occupational performance in Shiraz educational system organization (first area). *International Journal of Humanities and Cultural Studies (IJHCS)*, *3*(2), 981-999.

King, D. B. (2008). *Rethinking claims of spiritual intelligence: A definition, model, and measure* (Unpublished Master's Thesis), Trent University, Peterborough, Ontario, Canada.

King, D. B., & DeCicco, T. L. (2009). A viable model and self-report measure of spiritual intelligence. *International Journal of Transpersonal Studies*, *28*(1), 8.

Kirk, R. E. (2007). *Statistics: An introduction*. Boston: Cengage Learning.

Kling, J. (1995). High performance work systems and firm performance. *Monthly Labor Review*, *118*, 29-36.

Kushwaha, S. S. (2014). Spiritual intelligence of prospective teachers in relation to their biographical factors. *IOSR Journal of Humanities and Social Science*, *19*(10), 14-17.

Lan, M. J., Zhao, R. W., & Yang, Y. (2007). Study for the effects of nurse extended working hours on daily fatigue and job satisfaction [in Chinese]. *Journal of Nurses Training*, *24*, 2214-2216.

Lee, W. T., & Ko, K. Y. (2010). Effects of self-efficacy, affectivity and collective efficacy on nursing performance of hospital nurses. *Journal of Advanced Nursing*, *66*, 839-848.

Liang, H. X., Chen, A. C., & Xiao, M. Y. (2007). A survey of death viewpoint and hospitalpice mental status of clinical nurses. *Chinese Nursing Research*, *21*(5), 1164-1165.

Li, L., Ai, H., Gao, L., Zhou, H., Liu, X., Zhang, Z., . . . Fan, L. (2017). Moderating effects of coping on work stress and job performance for nurses in tertiary hospitals: a cross-sectional survey in China. *BMC Health Services Research*, *17*(1), 401.

Lin, K. (2012). *Fatigue and job performance among nurses in tertiary hospitals, Yunnan Province, The People's Republic of China* (Unpublished master's thesis). Chiang Mai University, Thailand.

Liu, L. H., Wang, H. M., Dai, Q., Xu, J. Q., Li, H. M., & Li, L. P. (2013). *The attitude of oncology nurses to death and its influence on hospice care factors*. Anhui Medical Information Center. Retrieved from http://www.yp900.com/lunwen_ jichuyixue/1283.htm

Lu, Y. F. (2014). Report on the status of contemporary Chinese religion [in Chinese]. *The World Religious Cultural*, *14*(1), 11-25.

Luan, X., Wang, P., Hou, W., Chen, L., & Lou, F. (2017). Job stress and burnout: A comparative study of senior and head nurses in China. *Nursing & Health Sciences*, *19*(2), 163-169.

Luis Daniel, J. (2010). The effect of workplace spirituality on team effectiveness. *Journal of Management Development*, *29*(5), 442-456.

Lyu, L., Li, G., Li, J., & Li, M. (2016). Nurse turnover research in China: a bibliometric analysis from 2000 to 2015. International Journal of Nursing Sciences, 3(2), 208-212.

Mackey, J., & Sisodia, R. (2013). *Conscious capitalism: Liberating the heroic spirit of business*. Boston: Harvard Business Review Press.

Mahmood, A., Arshad, M. A., Ahmed, A., Akhtar, S., & Rafique, Z. (2015). Establishing linkages between intelligence, emotional and spiritual quotient on employees performance in government sector of Pakistan. *Mediterranean Journal of Social Sciences*, *6*(6), 553-560. doi:10.5901/mjss.2015.v6n6s2p553

Maslow, A. H. (1964). *Religions, values, and peak experiences*. Columbus, OH: State University Press.

Mayer, J. D. (2000). Spiritual intelligence or spiritual consciousness? *The International Journal for the Psychology of Religion*, *10*, 47-56.

McCloskey, J. C., & McCain, B. (1988). Nurse performance: Strengths and weakness. *Nursing Research*, *37*(5), 308-313.

Medical Education Net. (2008). *Legal concept and self-protection in nursing work*. Retrieved from http://www.med66.com/html/2008/9/li113215391115980021624 0.html

Medical Talent Network. (2003). *All levels of hospitals in Honghe of Yunnan province* [in Chinese]. Retrieved from http://doctor.healthr.com/yiyuan/honghe-0-0.html?p=3

Meyer, J. P., & Allen, N. J. (1997). *Commitment in the workplace*. Thousand Oaks: Sage.

Ministry of Health of China. (1989). *The trail of general hospital classification management standards* [in Chinese]. Retrieved from http://wenku.baidu.com/view/b8564542336c1eb91a375d23.html

Ministry of Health of China. (2010). *Ministry of health issues standards for quality care in hospitals (trial)* [in Chinese]. Retrieved from http://www.gov.cn/gzdt/2010-12/23/content_1771819.htm

Ministry of Health of China. (2015). *The issuance of "implementation of quality care service standards in hospitals (trial)"* [in Chinese]. Retrieved from http://www.21wecan.com/jypx/kzlm1/wshyzyjngf/tyzy_733/hls/zygl_745/201508/t20150817_2606.html

Ministry of Health of China. (2018). *Statistical bulletin on the development of China's health cause in 2017* [in Chinese]. Retrieved from http://www.nhfpc.gov.cn/guihuaxxs/s10743/201806/44e3cdfe11fa4c7f928c879d435b6a18.shtml

Mohebi, P., Rastegari, L., Jaafari, E., & Sepehrinia, M. (2013). Spiritual intelligence in zanjan nursing and midwifery students and its related factors. *Preventive Care in Nursing & Midwifery Journal*, *2*(2), 49-56.

Moradnezhad, M., Seylani, K., Navab, E., & Esmaeilie, M. (2017). Spiritual intelligence of nurses working at the intensive care units of hospitals affiliated with Tehran University of Medical Sciences. *Nursing Practice Today*, *4*(4), 170-179.

Motowidlo, S. J., Borman, W. C., & Schmitt, M. J. (1997). A theory of individual differences in task and contextual performance. *Human Performance*, *10*(2), 71-83. doi:10.1207/s15327043hup10021

Motowidlo, S. J., & Van Scotter, J. R. (1994) Evidence that task performance should be distinguished from contextual performance. *Journal of Applied Psychology*, *79*, 475-480.

Mrayyan, M. T., & Al-Faouri, I. (2008). Predictors of career commitment and job performance of Jordanian nurses. *Journal of Nursing Management*, *16*(3), 246-256.

Murphy, K. R. (1989). Is the relationship between cognitive ability and job performance stable over time? *Human Performance*, *2*(3), 183-200.

Naji, S. (2018). The Relationship between spiritual intelligence and quality of work life in nurses in Oncology Departments of Ahwaz Hospitals, 2017. *Asian Journal of Pharmaceutics (AJP)*, *12*(Suppl. 2), S532-S537. doi:10.22377/ajp.v12i02.2388

Nasel, D. D. (2004). *Spiritual orientation in relation to spiritual intelligence: A consideration of traditional Christianity and New Age/individualistic spirituality* (Unpublished doctoral dissertation), University of South Australia, Adelaide.

Nouhi, E., Nakhaee, N., & Rahimi, N. (2014). Spiritual intelligence and attitude towards spirituality and spiritual care in nursing and midwifery students. *Iran Journal of Nursing*, *27*(90), 150-159.

Packard, J. S., & Motowidlo, S. J. (1987). Subjective stress, Job satisfaction, and job performance of hospital nurse. *Research in Nursing & Health*, *19*(4), 253-261.

Parande, A., Ezadi, A., Ebadi, A., & Ghanbari, M. (2011). Relationship between spiritual intelligence and organizational commitment in nurse-managers in military hospitals. *Journal of Military Psychology*, *2*(6), 69-78.

Pu, Y. X. (2010). Job characteristics and job performance among professional nurses in the university hospitals of people's Republic of China. *Chiang Mai University Journal of Natural Sciences*, *10*(2), 171-180.

Qiao, G. H., & Wang, J. N. (2010). Survey on job satisfaction, career development and organizational support among nurses. *Journal of Nursing Science*, *25*, 52-54.

Rani, A. A., Abidin, I., & Hamid, M. R. (2013). The impact of spiritual intelligence on work performance: Case studies in government hospitals of east coast of Malaysia. *The Macrotheme Review*, *2*(3), 46-59.

Rogal, S. M., & Young, J. (2008). Exploring critical thinking in critical care nursing education: A pilot study. *The Journal of Continuing Education in Nursing*, *39*(1), 28-33.

Ronel, N. (2008). The experience of spiritual intelligence. *Journal of Transpersonal Psychology*, *40*(1), 100-119.

Schwirian, P. M. (1978). Evaluation the performance of nurses: A multidimensional approach. *Nursing Research*, *27*, 347-351.

Shi, Y. (2013). *Improve nursing management level and effectively construct harmonious nurse-patient relationship* [in Chinese]. Scientific Research and Teaching. Retrieved from http://www.xytcm.com/2013/1009/2581.html

Smith, B. (2013). *Spiritual intelligence: Definitions and measurements*. Fielding Graduate University.

Song, J. H., You, P. S., & Yang, Y. (2005). *Guideline of hospital nursing quality control in Yunnan Province* [in Chinese]. Kunming: Yunnan Technical Printing.

Tabarsa, N., & Jalaei, H. R. (2015). The relationship between spiritual intelligence with mental health and job burnout. *International Research Journal of Management Sciences, 5*(2), 85-89.

Tee, S. C., Anantharaman, R. N., & Yoon, K. T. (2011). The roles of emotional intelligence and spiritual intelligence at the workplace. *Journal of Human Resources Management Research, 2011*, Article ID 582992, 9 pages.

The People's Government of Yunnan Province. (2016). *Circular of the general office of the people's government of Yunnan province on the issuance of the medical and health service system plan of Yunnan province (2016-2020).* Retrieved from http://www.yn.gov.cn/yn_zwlanmu/qy/wj/yzbf/201610/P020161031626558590423

Tian, M. M. (2012). Research status of empathic fatigue of nurses [in Chinese]. *Chinese Nursing Management, 12*(11), 86-90.

Tirri, K., Nokelainen, P., & Ubani, M. (2006). Conceptual definition and empirical validation of the spiritual sensitivity scale. *Journal of Empirical Theology, 19*(1), 37-62.

Tischler, L., Biberman, J., & McKeage, R. (2002). Linking emotional intelligence, spirituality and workplace performance. *Journal of Manegerial Psychology, 42*(2), 16-33.

Tong, L. (2018). Relationship between meaningful work and job performance in nurses. *International Journal of Nursing Practice*, *24*(2), e12620.

Tzeng, H. M. (2004). Nurses' self-assessment of their nursing competencies, job demands and job performance in the Taiwan hospital system. *International Journal of Nursing Studies*, *41*(5), 487-496.

Vaitl, D., Birbaumer, N., Gruzelier, J., Jamieson, G. A., Kotchoubey, B., Lehmann, D., . . . Weiss, T. (2005). Psychobiology of altered states of consciousness. *Psychological Bulletin*, *131*, 98-127.

Walsh, R. N. (1999). *Essential spirituality: The 7 central practices to awaken heart and mind*. New York: John Wiley.

Waltz, C. F., Strickland, D. L., & Lenz, E. R. (2005). *Measurement in nursing and health research* (3rd ed.). New York: Spring.

Wan, L. F., & Huang, L. H. (2007). Research progress of nurse job performance. *Journal of Nursing Science*, *12*(3), 85-87.

Wandelt, M. A., & Stewart, D. S. (1975). *Slater nursing competencies rating scale*. New York: Appleton- Centery Crofts.

Wang, F., Dai, Y., & Jin, L. F. (2016). Survey of nurses' core competence in Yunnan province and horizontal comparison with domestic nurses. *Nursing Research*, *30*(6B), 2135-2137.

Wang, H. H., Li, B. Y., He, G. L., & Chen, A. M. (2013*). Overview of pressure sources and coping methods for nurses*. Civil Service Home. Retrieved from https://www.gwyoo.com/lunwen/hllw /hspxlw/201301/547110.html

Wang, J. L., Jin, X. X., & Meng, X. L. (2009). Construction of work performance rating scale for nurses in tertiary hospitals [in Chinese]. *Management Research*, *19*(3), 50-52.

Wang, P., Zhao, L., & Gao, R. H. (2007). Application of organizational citizenship behavior in the area of nursing management [in Chinese]. *Attend to Practice and Research*, *12*, 54-55.

Wang, X. N. (2017). Stress sources and management strategies of nursing staff. *The World's Latest Medical Information Digest, 89*.

Wang, X. X. (2011). *Job stress and job performance among nurses in University Hospitals, People' Republic of China* (Unpublished master's thesis). Chiang Mai University, Thailand.

Wigglesworth, C. (2012). *SQ21: The 21 skills of spiritual intelligence.* New York: Selected Books.

Wilber, K. (2007). *Integral spirituality: A startling new role for religion in the modern and postmodern world*. Boston: Shambhala.

Wolman, R. N. (2001). *Thinking with your soul: Spiritual Intelligence and why it matters*. New York: Harmony Books.

World Health Organization. (2008). *General health statistic profile* [in Chinese]. Retrieved from http://www.who.int/gho/countries/usa.pdf

World Health Organization. (2018). *Density of nursing and midwifery personnel (total number per 1000 population, latest available year)*. Retrieved from http://www.who.int/gho/health_workforce/nursing_midwifery_density/en/

Xie, Y. H., & Liu, S. Q. (2016). Fish bone diagram analysis of problems in the teaching of nursing interns. *Journal of Bethune Medical*, *14*(1), 92-93.

Xin Hua Net. (2016). *Always maintain the dominant position of Marxist atheism in the people's minds*. Retrieved from http://www.xinhuanet.com/politics/2016-09/08/c_129274388.htm

Xin Hua Net. (2017*). Survey report on the development status of Chinese nurses*. Retrieved from http://www.xinhuanet.com//gongyi/2017-05/11/c_129601688.htm

Xu, H., Peng, M. C., Wang, G. C., Chen, J. L., Hu, Y. P., & Wang, G. J. (2006). Analysis of the characteristics of critical thinking ability and related factors of nursing undergraduates [in Chinese]. *Chinese Journal of Nursing*, *41*(2), 155-157.

Xu, S. Z., & Yang, Z. P. (2001). Thinking of making the best use of human resources of nursing staff [in Chinese]. *Journal of Chinese Nursing Research*, *15*(6), 346-348.

Xu, X. F., Che, H. S., Lin, X. H., & Zhang, J. M. (2005). Organizational support theory and research. *Journal of Psychology*, *38*(2), 281-287.

Yaacob, A. M., Zakaria, Z., Salamat, A. S. A., Yaacob, Z., Salmi, N. A., Hasan, F. N., . . . Rahim, S. N. A. (2011). Patients satisfaction towards service quality in public hospital: Malaysia perspective. *Interdisciplinary Journal of Contemporary Research in Business*, *2*(12), 635-640.

Yamane, T. (1973). *Statistics: An introductory analysis* (3rd ed.). New York: Harper and Row.

Yang, K. P. (2006). The spiritual intelligence of nurses in Taiwan. *The Journal of Nursing Research: JNR*, *14*(1), 24-35.

Yang, K. P., & Mao, X. Y. (2007). A study of nurses' spiritual intelligence: A cross-sectional questionnaire survey. *International Journal of Nursing Studies*, *44*(6), 999-1010.

Yang, S. J., & Duan, P. L. (2010). Status and prospects of death and death attitudes of domestic clinical nurses. *Journal of Nursing*, *17*(7A), 5-7.

Yang, X. L., Su, X. Y., & Zhang, J. E. (2006). Evaluation on work performance of nurses and its influencing factors. *Nursing Research*, *20*(3), 631-633.

Yang, X., Shao, W. L., Yang, Y. P., Ying, B., & Dong, X. (2009). The present situation of performance appraisal in nursing staff [in Chinese]. *Journal of Nursing Administration, 19*(4), 18-19.

Youngblut, J. M., & Brooten, D. (2001). Evidence-based nursing practice: Why is it important? *AACN Advanced Critical Care, 12*(4), 468-476.

Yu, S., & Ko, Y. (2017). Communication competency as a mediator in the self-leadership to job performance relationship. *Collegian*, *24*(5), 421-425.

Yunnan Province Bureau of Health. (2010). *Health care service quality report of provincial hospitals* [in Chinese]. Retrieved from http://www.pbh.yn.gov. cn/ content.asp?id=2102&itemid=3

Zhang, S. X. (2014). Analysis on the causes and countermeasures of the current tension between nurses and patients [in Chinese]. *Health Guide: Medical Version, 8*, 208-209.

Zhang, W. (2009). The influence of nursing communication skills on nurse-patient relationship. *Nursing of Tianjin, 17*(3), 166-166.

Zhang, X. Q., & Yang, T. W. (2010). Investigation and analysis of nurse practice values in China [in Chinese]. *Research and Exploration, 11*(3), 45-48.

Zhang, Y. C. (2005). The application of critical thinking in clinical nursing. *China Medical Journal*, *2*(21), 21-22.

Zhao, H. C. (2012). Discussion of the importance of nurses in community health education. *Journal of Psychiatrists, 6*, 435-436.

Zhao, Y. Q. (2008). Analysis of causes of work stress of nurses and corresponding measures [in Chinese]. *Journal of Chinese Modern Clinical Nursing*, *3*(4), 328-329.

Zhao, Y. Q., Zhang, S. X., & He, C. X. (2007). Talk about the relationship between doctor and nurse and the medical conflict [in Chinese]. *Journal of Practical Medical Techniques*, *6*, 763-764.

Zhou, C. L. (2014). Brief discussions on contemporary social mainstream culture and subculture in China [in Chinese]. *Education Teaching Forum*, *20*, 163-164.

Zhou, X. P. (2017). What is the difference between Chinese people's beliefs and the west. *Time Post Journal*, *3*.

Zhu, N. (2010). Let patients get real benefits--Return the time of doctors and nurses to patients. *Chinese Modern Hospital Management Journal*, *8*(5), 13-14.

Zhu, X. M. (2018). Guided by the spirit of the 19th National Congress, adhere to the principle of atheism and grasp the correct direction of religious work [in Chinese]. *Science and Atheism*, *1*, 3-9.

Zohar, D., & Marshall, I. (2000). *SQ: Connecting with our spiritual intelligence.* New York: Bloomsbury.

Zyga, S., Mitrousi, S., Alikari, V., Sachlas, A., Stathoulis, J., Fradelos, E., . . . Maria, L. (2016). Assessing factors that affect coping strategies among nursing personnel. *Materia Socio-Medica*, *28*(2), 146.

APPENDICES

APPENDIX A

The Cronbach's Alpha Coefficient of Instruments

Scales	α
SISRI-24	.95
Critical existential thinking	.82
Personal meaning production	.83
Transcendental awareness	.83
Conscious state expansion	.86
SJPS	
Task performance	.92
Social support	.93
Information provision	.89
Technical care	.87
Contextual performance	.92
Interpersonal support	.82
Job-task support	.86
Organizational support	.88

APPENDIX B

Demographic Data Form (English)

Instruction: please according to your own situation complete below items:

1. The name of your working hospital

□ The first people's hospital of Honghe Prefecture

□ The people's hospital of Gejiu city

□ The third people's hospital of Honghe Prefecture

2. The name of your working section in hospital

□ Medical Department □ Surgical Department

□ Obstetrics and Gynecology(OB-GYN) □ Pediatric Department

□ Intensive Care Unit (ICU) □ Emergency Room (ER)

□ Operation Room (OR) □ Out Patient Department (OPD)

3. Gender

□ Male □ Female

4. Age _____

5. Education level

□ Diploma □ Bachelor □ Master

6. Marital status

□ Single □ Married □ Divorced □ Separation or widowed

7. Professional title

□ Professor □ Associate professor

□ Assistant professor □ Senior nurse □ Junior nurse

8. Number of working year_____

9. Religious beliefs_____

APPENDIX C

Spiritual Intelligence Self-Report Inventory (English)

The following statements are designed to measure various behaviours, thought processes, and mental characteristics. Read each statement carefully and choose which one of the five possible responses best reflects you by circling the corresponding number. If you are not sure, or if a statement does not seem to apply to you, choose the answer that seems the best. Please answer honestly and make responses based on how you actually are rather than how you would like to be. The five possible responses are:

0 – Not at all true of me; 1 – Not very true of me: 2 – Somewhat true of me;

3 – Very true of me; 4 – Completely true of me. For each item, circle the one response that most accurately describes you.

S/N	Item	Score				
1	I have often questioned or pondered the nature of reality.	0	1	2	3	4
2	I recognize aspects of myself that are deeper than my physical body.	0	1	2	3	4
3	I have spent time contemplating the purpose or reason for my existence.	0	1	2	3	4
4	I am able to enter higher states of consciousness or awareness.	0	1	2	3	4
.....		0	1	2	3	4
.....		0	1	2	3	4
.....		0	1	2	3	4
22	Recognizing the nonmaterial aspects of life helps me feel centered.	0	1	2	3	4
23	I am able to find meaning and purpose in my everyday experiences.	0	1	2	3	4
24	I have developed my own techniques for entering higher states of consciousness or awareness.	0	1	2	3	4

APPENDIX D

Shortened Job Performance Scale (English version)

Instruction: There are 25 items of job performance expression. Please read each item carefully and identify how effective you are at each of the item and how often you perform the activities. Rate all selection according to your own situation. There is no right or wrong answer for each item, please be honest when you select.

Task performance:

Number of item	Item	How effective you are at each the item						
		poor		Good			Excellent	
1	Listening to patient's concerns	1	2	3	4	5	6	7
2	Taking time to meet the emotional needs of patients	1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
11	Administering medications and treatments	1	2	3	4	5	6	7

Contextual performance

Number of item	Item	How often you perform the activities						
		Not at all		A moderate amount			A great deal	
12	Taking time to meet other nurses' emotional needs	1	2	3	4	5	6	7
13	Raising morale of other nurses in my unit	1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
25	Attending and participating in meetings regarding the hospital	1	2	3	4	5	6	7

APPENDIX E

Demographic Data Form (Chinese)

请在符合您目前情况的描述前打“√”或事在横线处填入相应内容

1. 工作单位
   ☐ 红河州第三人民医院（云锡医院） ☐个旧市人民医院
   ☐ 红河州第一人民医院
2. 所在科室
   ☐ 内科☐ 外科☐ 妇产科☐ 儿科☐ ICU ☐ 急诊科☐ 手术室
   ☐ 门诊
3. 性别
   ☐ 男 ☐ 女
4. 年龄 _____
5. 教育程度
   ☐中专或大专 ☐ 本科 ☐ 硕士
6. 婚姻状况
   ☐单身 ☐ 已婚 ☐ 离异 ☐ 分居或丧偶
7. 职称
   ☐主任护师 ☐ 副主任护师 ☐ 主管护师 ☐ 护师 ☐ 护士
8. 工作年限：_____年
9. 宗教信仰：_____

APPENDIX F

Spiritual Intelligence Self-Report Inventory (Chinese)

第二部分：灵性智能自评量表 —— SISRI 24

以下的条目旨在测量各种行为，思维过程和心理特征。请仔细阅读每个条目，在五个可能的回答中选出一个最能反映您真实情况的回答，并圈出相应的数字。如果您不确定，或者条目不适用于您，请选择您认为是最好的答案。请根据您的实际情况诚实作答而不是根据您的意愿作答。

评估表中条目的评分标准为：0 = 对我来说完全不准确； 1 = 对我来说不是很准确； 2 = 对我来说有一些准确； 3 = 对我来说准确；4 = 对我来说完全准确。

序号	条目	分数				
1	我经常询问或沉思现实的本质	0	1	2	3	4
2	我认识到自己比肉体/身体更深的方面	0	1	2	3	4
3	我花了时间沉思我存在的目标或原因	0	1	2	3	4
4	我能够进入更高的意识或知觉状态	0	1	2	3	4
.....		0	1	2	3	4
.....		0	1	2	3	4
.....		0	1	2	3	4
24	我已经发展了自己进入更高意识或知觉状态的技能	0	1	2	3	4

APPENDIX G

Shorten Job Performance scale (Chinese)

护士工作绩效简式量表

以下 25 个条目是有关护理工作绩效的描述，请您仔细阅读每个条目并且根据您在日常护理工作中对以下条目的履行程度来选择相对应的分值。

评分表中条目 1 到 11 的评分标准为：1=差，（即，在您日常护理工作中您很少，甚至几乎没有履行以下行为），7=极好，（即，在您日常护理工作中您能非常好的履行以下行为。条目 12 到 25 的评分标准为：1= 您在您日常护理工作中从不履行以下行为；7 = 您在您日常护理工作中大量履行了以下行为

任务绩效

序号	条目	分数						
		差	好			极好		
1	倾听病人关心的事	1	2	3	4	5	6	7
2	花时间满足病人的情感需求	1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
11	管理用药和治疗	1	2	3	4	5	6	7

周边绩效

序号	条目	频率						
		从不		中等			大量	
12	花时间满足其他护士的情感需求	1	2	3	4	5	6	7
13	鼓舞本科其他护士的士气	1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
.....		1	2	3	4	5	6	7
25	有意愿参加与医院相关的会议	1	2	3	4	5	6	7

APPENDIX H

Information Sheet for Study Participants (English)

Information Sheet for Research Participants

Research Project: Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China

Research Team: Miss Li Gao, Professor Dr. Wipada Kunaviktikul,
Assist. Prof. Dr. Orn-Anong Wichaikhum
Institute: Faculty of Nursing, Chiang Mai University.
Research Funding: None

You are being invited to take part in this study because you are a nurse **working at tertiary hospitals of Honghe State.** The 385 nurses whom have qualities and characteristics needed for this study will be selected from **The First People's Hospital of Honghe State, The People's Hospital of Gejiu City, and The Third People's Hospital of Honghe State.**

Before you decide to take part in this study, please take time in reading this information sheet to make sure that you understand what you will be asked to do as part of this study. If you have any question regarding this study, please feel free to ask the research staff. You are also welcome to discuss this study with someone that you know and trust before you make decision.

Again, your decision making to participate this study **is voluntary (Frame 1).** If you decide not to be in this study, your rights and benefits will not be affected.

Frame 1 Participation of this study is voluntary

- You **can refuse** to participate in this study
- You can **withdraw** from this study at any time without any penalty.

Information related to this study

Job performance is an essential indicator of productivity and profitability in any profession. In nursing area, Nurses' job performance is closely related to hospital's organizational effectiveness, patient' satisfaction and quality of care. Providing the highest quality of care has always been a major goal of health care system around the world, in order to improve quality of care must enhance nurses' job performance. There are many factors influence nurses' job performance, one of them is spiritual intelligence. If a nurse have high spiritual intelligence, it will improve nurses' clinical competency, help nurses meet the needs of patients, increase patients' safety and organizational efficiency as well as enhance quality of care.

This study will include 385 nurses working in the tertiary hospitals of Honghe. This study will use self-administered questionnaire including: 1) Demographic Data Form; 2) Spiritual Intelligence Self-Report Inventory; 3) Shortened Job Performance Scale. The research coordinator of each hospital will distribute the package of questionnaires to all participants, participants could complete the questionnaires in their private time within one week period and return it to the box with lock, which will be placed in nursing department of each hospital by the researcher.

The **objectives of this study** are to **explore spiritual intelligence and job performance, and to examine relationship between spiritual intelligence and job performance of nurses in tertiary hospitals of Hoghe, Yunnan Province, the People's Republic of China.**

Frame 2 Possible adverse events from this study

There will be no physical, mental harm or societal discomforts to the participants, since the study does not involve the use of blood or any other dangerous objects. The participants will not suffer any loss of benefits, job, or effect of their performance evaluation by taking part in or withdrawing from the study at any time in this research process. Information that is collected for this study will be kept confidential. Any information about participants will have a number on it instead of name. No one but the researchers will be able to see it.

Frame 3 Study design

A descriptive correlation research design will be used in this study

Duration of data collection in this study will be started from February to April 2019.

If you agree to take part in this study, you will be asked to do by the investigator as the study plan **(Frame 4)**

Frame 4 Study plan

You will be asked to complete a consent form and questionnaire consisted of Demographic data form, Spiritual Intelligence Self-Report Inventory and Shortened Job Performance Scale. This questionnaire will take about 20-30 minutes to complete. We hope that you will be comfortable answering all questions openly and honestly in a relax environment.

After completing questionnaire, please separate questionnaire and consent form into two envelops respectively and return them within one week. For all nurses including in this study, please return questionnaire and consent form to the two boxes that placed in the nursing department of each hospital by the researcher. The two boxes in each place are with lock and separating consent form and questionnaire.

The investigator summarizes risks and benefits to study participants in **Frame 5.**

Frame 5 Anticipated risks and benefits to study participants

Risks and means to minimize or avoid risks	**Benefits**
-Risks: some questions may be sensitive to the participants. **-Means to minimize or avoid risks**: participants have the right to skip in answering the questions or withdraw from the study at any time during the study.	**-Direct/indirect benefits:** there may be no direct benefits to participants but results from the study can be used as information to improve spiritual intelligence and job performance among

	nurses in tertiary hospitals of Honghe state.

The investigator summarizes the practical guideline or the care of various situations that may happen during the study in **Frame 6**

Frame 6 Situations may happen during the study	
Situations	**Practical guideline**
If you want to withdraw consent during the study.	The participant is not required to complete the questionnaires and his/her rights and benefits will not be affected.
When have a new and significant information, which are possible effects to your decision making.	The researcher will inform you soon and you are able to decide whether to continue or discontinue participating in this study.

If you have any questions before or during participating in this study, you can contact persons in **Frame 7**

Frame 7 Research contact person (s) for further information

1. Li Gao : Neurology Departmen, the First People's Hospital of Honghe State, phone number: (+86) 18288967045
2. Professor Dr. Wipada Kunaviktikul: Faculty of Nursing, Chiang Mai University, phone number 66-0970209721 (official time)

If you have any questions about your rights before or during participating in this study, please contact the Research Ethics Committee, Faculty of Nursing, Chiang Mai University. Tel. 66-53-936080 (Office hours) or Fax. 66-53-894170

There are no conflicts of interest associated with this study.

Volunteer Research Agreement Form	
I have already read the above information thoroughly and have been given an opportunity to have any questions about the research answered to my satisfaction. I agree to participate in this study by signing my signature in this form as an evidence of my decision making (However, this signature does not mean that I waive any right provided by law).	I certify that the study participant has been given an opportunity to have any questions and has been received answers clearly. The study participant voluntarily agrees to participate in this study.
_____	_____
Name of study participant	Name of a person who requests agreement from study participants (or the investigator)
_____	_____
Signature of study participant	Signature of a person who requests agreement from study participants (or the investigator)
_____	_____
Day/Month/Year	Day/Month/Year
_____	
Signature of lawful representative	
_____	
Day/Month/Year	

APPENDIX I

Information Sheet for Study Participants (Chinese)

研究参与者信息单（Chinese）

提案名称：中国云南省红河州三级医院护士灵性智能和工作绩效的相关性研究

研究者团队：高莉女士，Professor Dr. Wipada Kunaviktikul, 和 Assist. Prof. Dr. Orn-Anong Wichaikhum

学院: 清迈大学护理学院

科研基金: 无

您被邀请参与本次研究，因为您是红河州三级医院的护士。具备本研究所要求的特质和特征的 385 名护士将被从红河州第一人民医院，个旧市人名医院以及红河州第三人民医院中选取。

在你决定是否参与本研究之前，请你花时间阅读信息单以确保你明白你将被要求参与本研究。如果你有关于本研究的任何问题，请咨询研究者或咨询和你关系好的人。再者，你决定参与本研究是自愿的（**表 1**）。如果你决定不参与本研究，你的权利和利益将不会被影响。

表 1：参与本研究是自愿的

- 你**可以拒绝**参与本研究。
- 你**可以**在任何时候没有任何处罚从本研究**退出**。

有关本研究的信息

工作表现在任何职业中都是生产力和盈利能力的重要指标。在护理领域，护士的工作绩效与医院的组织效能、患者的满意度和护理质量密切相关;护士的工作绩效被认为是护理质量的重要指标。提供最高质量的护理是全世界卫生系统一直的主要目标，为了提高护理质量必须提高护士的工作绩效。影响护士工作绩效的因素很多，其中之一就是精神智商。如果护士具有较高的精神智商，会提高护士的临床能力，帮助护士满足病人的需求，提高病人的安全和组织效率以及提高护理质量。

本研究将纳入在红河州三级医院工作的 385 名护士。本研究采用自填式调查问卷，问卷内容包括:1)个人基本信息表;2)灵性智能自我评估量表;3)简式护理工作绩效量表。每个医院的研究协调员将发放问卷包给所有的参与者，所有参与者在一周内利用私人时间完成问卷并将问卷返回由研究者提前放置在各医院护理部带锁的信箱内。

本研究的目的是探索中国云南省红河州三级医院护士的灵性智能和工作绩效，检测护士灵性智能与工作绩效的关系。

表 2：来自本研究可能的不良事件

对参与者没有身体的，精神的伤害或者社会的不适。

因为本研究不使用血或者其他任何危险的对象。参与者在研究过程中的任何时候均可选择继续参与或者从本研究中退出，均不会遭受任何利益损失，工作损失或者影响绩效评估。本研究收集的信息将被保密。任何有关参与者的信息将用编号代替姓名。除了研究者没有人能够看到它。

表 3：研究设计

描述性相关性研究设计。

本研究数据收集持续的时间将从 2019 年 2 月到 4 月， 如果你同意参与本次研究，你将遵循研究者的研究计划（**表 4**）。

表 4：研究计划

您将被要求填写一份同意书和调查问卷，其中包括个人信息表，灵性智能自评量表，简式工作绩效量表。此问卷需要大约 20-30 分钟可以完成。 我们希望您在舒适的环境中，能够坦诚地回答所有问题。

完成调查问卷后，请将调查问卷和同意书分别放入两个信封中，并在一周内返还。所有包含在本研究内的护士，可以将返还的信封放入由研究者提前设置在每个医院护理部的两个信箱。两个信箱已经上锁，一个放同意书，一个放调查问卷。

研究者总结对研究参与者的风险和利益见**表 5**。

志愿研究协议表 (Chinese)

我已经仔细的阅读上面的信息，并且被给与机会提问关于这个研究的任何问题，同时对回答也满意。 我同意参与这个研究并以签字作为我决定的证据（然而，这个签字并不意味着我放弃法律提供的任何权利）。

研究参与者的姓名

研究参与者的签名

日/月/年

合法代表签名

日/月/年

我保证研究参与者已经得到机会提问任何问题并且得到清楚的回答。研究参与者自愿同意参与本次研究。

研究者名字

研究者签名

日/月/年

APPENDIX J

Certificate of Ethical Clearance

Research Ethics Office
Faculty of Nursing, Chiang Mai University

AF 04-021

Progress report is required to be submitted to the Ethics Committee for continuing review

[ ] at 3 month interval
[ ] at 6 month interval
[✓] annually (in this case please submit at least 60 days prior to expiration date)

This Ethics Committee is organized and operates according to GCPs and relevant international ethical guidelines, the applicable laws and regulations.

Signed : Wichit Srisuphan

(Professor Emerita Dr.Wichit Srisuphan)

Chairperson, Faculty of Nursing, Chiang Mai University

Signed :

(Professor Dr.Wipada Kunaviktikul)

Dean, Faculty of Nursing, Chiang Mai University

GENERAL CONDITION OF APPROVAL:

1. Research Ethics Committee approval is required before implementing any changes in the consent documents or protocol unless those changes are required urgently for the safely of subjects.
2. Any event or new information that may affect the benefit/risk ratio of the study must be reported to the REC promptly.
3. Any protocol deviation/violation must be reported to the REC.
4. Review of close study report is required to be submitted to the REC.
5. Review of progress report to the REC before expiration date at 2 months.

Research Ethics Office
Faculty of Nursing, Chiang Mai University

AF 04-021

No. 023/2019

Certificate of Approval

Name of Committee : Research Ethics Committee, Faculty of Nursing, Chiang Mai University
Address of Committee: 110/406 Intavaroros Rd., Amphoe Muang, Chiang Mai, Thailand 50200

Principal Investigator : Miss Li Gao
Master of Nursing Science (International Program) Faculty of Nursing, Chiang Mai University

Protocol Title : Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China
Research ID: 2019 – 024 ; **Study Code :** 2019 – EXP014
Sponsor : -

Documents filed	Document reference
Research protocol	Version 2 Date January 30, 2019
Informed consent documents	Version 1 Date January 14, 2019
Patient information sheet	Version 1 Date January 14, 2019
Instrument	Version 1 Date January 14, 2019
Principal Investigator Curriculum vitae	Version 1 Date January 14, 2019
Advertisements : (if any)	-

Opinion of the Ethics Committee/Institutional Review Board: Expedited Review in January 2019

The Ethics Committee has reviewed the protocol and documents above and give the favorable opinion

Date of Approval : January 31, 2019 Expiration Date : January 30, 2020

APPENDIX K

Permission for Using Instrument

Permission for Using Spiritual Intelligence Self-Report Inventory

From: David King, <dbking11@psych.ubc.ca>

Sent: Thursday, January, 10, 2019 4:41 AM

To: Li Gao <ligao131923@gmial.com

Subject: Request permission for using Spiritual Intelligence Self-Report Inventory

David King <dbking11@psych.ubc.ca> 1月10日周四 上午4:41
发送至 我

英语 › 中文 翻译邮件

My sincere apologies for the late response. Yes. you have permission to use the scale. It is free to use for research or educational purposes.

All the best,
David

David King, PhD
Lecturer (Department of Psychology) & Researcher (Centre for Health & Coping Studies)
University of British Columbia - *located on the traditional, ancestral, and unceded territory of the Musqueam people.*
www.davidbking.net

Permission for Using Shorten Job Performance Scale

From： Jaimi H. Greenslade <j.greenslade@psy.uq.edu.au>

Sent: October, 18, 2018 4:10 AM

To : Li Gao <ligao131923@gmial.com>

Subject: Request permission for using shorten job performance scale

Jaimi Greenslade <j.greenslade@psy.uq.edu.au> 2018年10月18日 上午4:10
发送至 我 ▾

Happy for you to use the job performance scale

Kind Regards

Jaimi

Permission for Using Chinese Version of Shorten Job Performance Scale

From: Lin Ke <77340786@qq.com>

Sent: November, 8, 2018 13:39Li

To: Gao Li <1101451401@qq.com>

Subject: Supplicating permission for using Chinese version of shorten job performance scale

发件人: "LIN KE" <77340786@qq.com>;
发送时间: 2018年11月8日(星期四) 13:39
收件人: "冰怡" <1101451401@qq.com>;
主题: Re: Supplicating permission for using Chinese version shortened job performance scale

Gao Li:
Thank you for your email. You have my permission to use my instrument in your research.

Kind Regards

Lin Ke
Second affiliated hospital of Kunming Medical university

APPENDIX L

Permission of Data Collection Letters from Three Hospitals

Permission of Data Collection from the First People's Hospital of Honghe State (English)

Faculty of Nursing
Chiang Mai University

คณะพยาบาลศาสตร์
มหาวิทยาลัยเชียงใหม่

Ref.No.6593 (7)/917

Mrs. Zhang Lihong,
Director of Nursing Department
The First People 's Hospital of Honghe State
The People's Republic of China

February 1 , 2019

Dear Mrs. Zhang Lihong,

Miss Li Gao, Student Code 601235813, is a master degree student in Nursing Administration at the Faculty of Nursing, Chiang Mai University, Thailand. She is ready to begin data collection for her master thesis on "Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China" under the guidance of her advisors, Professor Dr. Wipada Kunaviktikul and Assistant Professor Dr. Orn-Anong Wichaikhum. Her study has been approved by our Research Ethics Committee.

Miss Li Gao will collect data from nurses from several hospitals in Honghe from February – March 2019. The data collection instruments include: 1. Demographic Data Form; 2. Spiritual Intelligence Self-Report Inventory; and 3. Shortened nursing Job Performance Scale. Data collected from all hospitals will be analyzed and reported in aggregate. All data will be reported across setting and findings for individual hospitals will not be provided.

The Faculty of Nursing, Chiang Mai University would like to request permission for Miss Li Gao to engage in data collection at your hospital. The number of participants from your hospital will be 128. We believe that her topic is of great interest and the data gained from her study will be valuable to hospitals in Honghe and throughout China. Your assistance with this project would be greatly appreciated. Thank you for your consideration of this request.

Yours sincerely,

Thanee Kaewthummanukul

Asst. Prof. Thanee Kaewthummanukul, PhD, RN
Associate Dean for Graduate Studies and Research
Deputy Dean,
Faculty of Nursing, Chiang Mai University

Address
110 Inthavaroros Road, Sriphum, Muang, Chiang Mai, 50200, Thailand

Telephone
+66 53 945 012

Fax
+66 53 217 145

Website
www.nurse.cmu.ac.th

Permission of Data Collection of Reliability test from the First People's Hospital of Honghe State

Faculty of Nursing
Chiang Mai University

คณะพยาบาลศาสตร์
มหาวิทยาลัยเชียงใหม่

Ref.No.6593 (7)/915

Dear Mrs. Zhang Lihong,
The First People 's Hospital of Honghe State
The People's Republic of China

February 1 , 2019

Dear Mrs. Zhang Lihong,

Miss Li Gao, Student Code 601235813, is a student in the Master program in Nursing Administration at the Faculty of Nursing, Chiang Mai University. Her thesis entitled "Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China" has been approved by the Faculty of Nursing Graduate Committee. She is conducting her thesis under the guidance of her advisors, Professor Dr. Wipada Kunaviktikul and Assistant Professor Dr. Orn-Anong Wichaikhum. She would like to collect data from 10-30 nurses at the First People's Hospital of Honghe State in February 2019. Data will be collected by using Demographic Data Form, Spiritual Intelligence Self-Report Inventory, and Shortened nursing Job Performance Scale. The result from this process will be used to test the quality of the instruments.

The Faculty of Nursing, Chiang Mai University would like to request permission for student to collect data at your hospital in order to ensure the reliability of the instruments. All data will be collected by the student.

Thank you in advance for considering this request.

Yours sincerely,

Thanee Kaewthummanukul

Assistant Professor Thanee Kaewthummanukul, PhD, R.N.
Associate Dean for Graduate Studies and Research
Deputy Dean,
Faculty of Nursing, Chiang Mai University.

Address
110 Inthavaroros Road, Sriphum, Muang, Chiang Mai, 50200, Thailand
110 ถนนอินทวโรรส ศรีภูมิ เมือง เชียงใหม่ 50200

Telephone
+66 53 945 012

Fax
+66 53 217 145

Website
www.nurse.cmu.ac.th

Permission of Data Collection from the People's Hospital of Gejiu City (English)

Faculty of Nursing
Chiang Mai University

คณะพยาบาลศาสตร์
มหาวิทยาลัยเชียงใหม่

Ref.No.6593 (7)/๙๑๖

Mrs. Guan Xueyan,
Director of Nursing Department
The People's Hospital of Gejiu City
The People's Republic of China

February 1, 2019

Dear Mrs. Guan Xueyan,

Miss Li Gao, Student Code 601235813, is a master degree student in Nursing Administration at the Faculty of Nursing, Chiang Mai University, Thailand. She is ready to begin data collection for her master thesis on "Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China" under the guidance of her advisors, Professor Dr. Wipada Kunaviktikul and Assistant Professor Dr. Orn-Anong Wichaikhum. Her study has been approved by our Research Ethics Committee.

Miss Li Gao will collect data from nurses from several hospitals in Honghe from February – March 2019. The data collection instruments include: 1. Demographic Data Form; 2. Spiritual Intelligence Self-Report Inventory; and 3. Shortened nursing Job Performance Scale. Data collected from all hospitals will be analyzed and reported in aggregate. All data will be reported across setting and findings for individual hospitals will not be provided.

The Faculty of Nursing, Chiang Mai University would like to request permission for Miss Li Gao to engage in data collection at your hospital. The number of participants from your hospital will be 153. We believe that her topic is of great interest and the data gained from her study will be valuable to hospitals in Honghe and throughout China. Your assistance with this project would be greatly appreciated. Thank you for your consideration of this request.

Yours sincerely,

Thanee Kaewthummanukul

Asst. Prof. Thanee Kaewthummanukul, PhD, RN
Associate Dean for Graduate Studies and Research
Deputy Dean,
Faculty of Nursing, Chiang Mai University

Address
110 Inthavaroros Road, Sriphum, Muang, Chiang Mai, 50200, Thailand
110 ถนนอินทวโรรส ศรีภูมิ เมืองเชียงใหม่ 50200

Telephone
+66 53 945 012

Fax
+66 53 217 145

Website
www.nurse.cmu.ac.th

Permission of Data Collection from the Third People's Hospital of Honghe State (English)

Faculty of Nursing
Chiang Mai University

คณะพยาบาลศาสตร์
มหาวิทยาลัยเชียงใหม่

Ref.No.6593 (7)/916

Mrs. Ni Zhongmei,
Director of Nursing Department
The Third People 's Hospital of Honghe State
The People's Republic of China

February 1 , 2019

Dear Mrs. Ni Zhongmei,

Miss Li Gao, Student Code 601235813, is a master degree student in Nursing Administration at the Faculty of Nursing, Chiang Mai University, Thailand. She is ready to begin data collection for her master thesis on "Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China" under the guidance of her advisors, Professor Dr. Wipada Kunaviktikul and Assistant Professor Dr. Orn-Anong Wichaikhum. Her study has been approved by our Research Ethics Committee.

Miss Li Gao will collect data from nurses from several hospitals in Honghe from February – March 2019. The data collection instruments include: 1. Demographic Data Form; 2. Spiritual Intelligence Self-Report Inventory; and 3. Shortened nursing Job Performance Scale. Data collected from all hospitals will be analyzed and reported in aggregate. All data will be reported across setting and findings for individual hospitals will not be provided.

The Faculty of Nursing, Chiang Mai University would like to request permission for Miss Li Gao to engage in data collection at your hospital. The number of participants from your hospital will be 104. We believe that her topic is of great interest and the data gained from her study will be valuable to hospitals in Honghe and throughout China. Your assistance with this project would be greatly appreciated. Thank you for your consideration of this request.

Yours sincerely,

Thanee Kaewthummanukul

Asst. Prof. Thanee Kaewthummanukul, PhD, RN
Associate Dean for Graduate Studies and Research
Deputy Dean,
Faculty of Nursing, Chiang Mai University

Address
110 Inthavaroros Road, Sriphum, Muang, Chiang Mai, 50200, Thailand
110 ถนนอินทวโรรส ศรีภูมิ เมือง เชียงใหม่ 50200

Telephone
+66 53 945 012

Fax
+66 53 217 145

Website
www.nurse.cmu.ac.th

Permission of Data Collection from the First People's Hospital of Honghe State (Chinese)

尊敬的 张丽红 主任：

您好！

我叫高莉，系红河州第一人民医院的护士，2017 年 8 月经我院选派赴泰国清迈大学护理学院攻读护理管理硕士学位，现回国做硕士论文，论文题目为"中国云南省红河州三级医院护士灵性智能和工作绩效的相关性研究"。该课题需要在我州三家三级医院的护士群体中进行抽样，以发问卷的形式，由护士自行填写后回收。该课题针对护士灵性智能和工作绩效进行相关性研究，旨在提供灵性智能和工作绩效现状信息给医院和护理管理者，并为制定提高护理质量的策略提供科研依据，从而促进我州护理事业的发展。

该课题问卷由三部分组成：人口学特征问卷，中文版灵性智能自我评估量表及护理工作绩效简式量表。该课题遵循科学研究的伦理原则，资料收集以匿名的方式，研究结果以整体形式报告在论文中，且研究结果仅用于此次研究，决不作为其它任何用途，不会损害医院和护士的任何利益，也不会侵犯任何人的隐私权。

该课题拟在贵院的护士中收集资料，按照红河州第一人民医院在职护士数在总人群中的比例，本研究需要从红河州第一人民医院中随机抽取样本 128 人。特此提出申请，恳请得到贵院护理部的许可和协助。如贵院护理部同意，请您签字盖章 _____

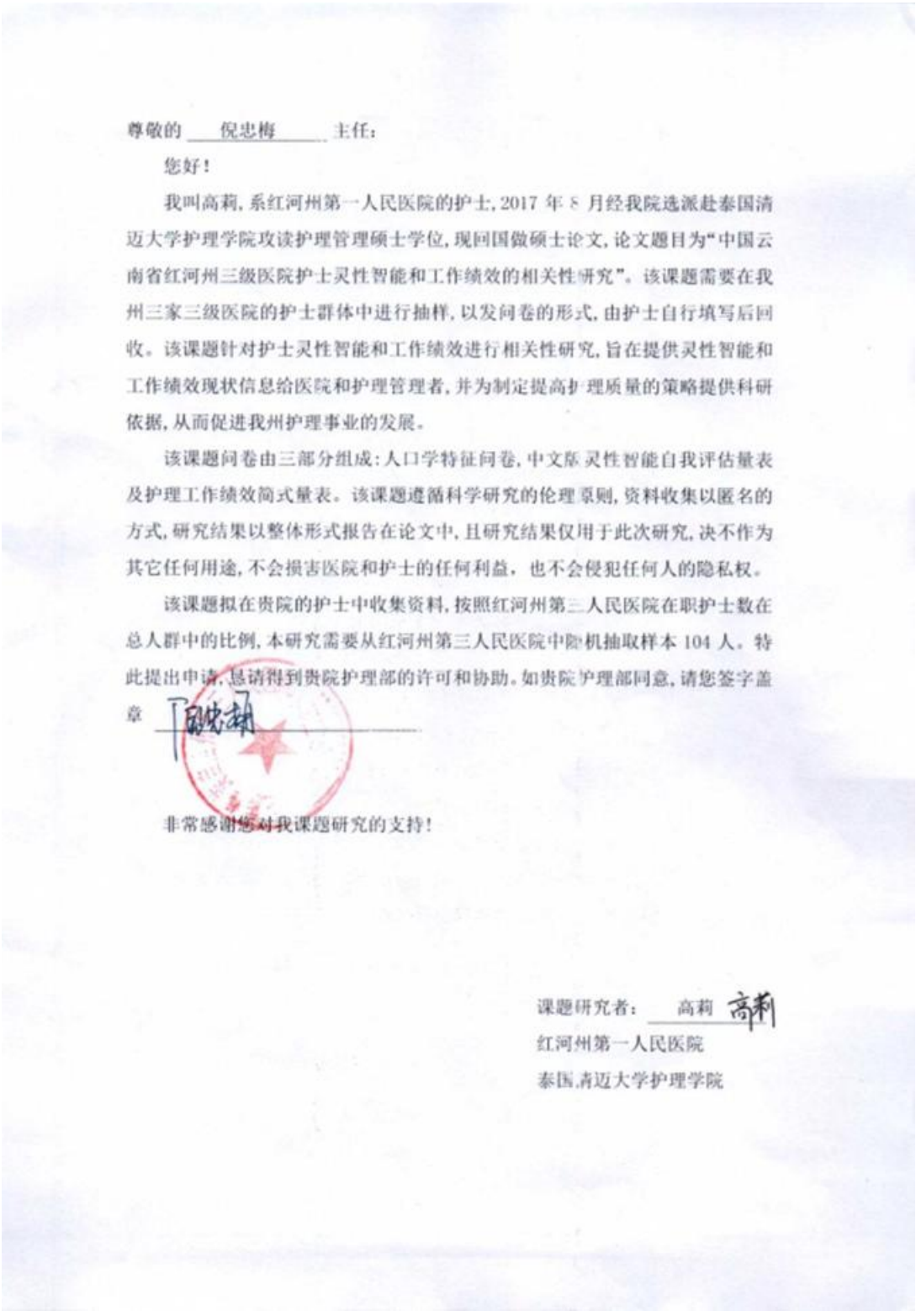
非常感谢您对我课题研究的支持！

课题研究者：高莉

红河州第一人民医院

泰国清迈大学护理学院

Permission of Data Collection from the Third People's Hospital of Honghe State (Chinese)



尊敬的 倪忠梅 主任：

您好！

我叫高莉，系红河州第一人民医院的护士，2017 年 8 月经我院选派赴泰国清迈大学护理学院攻读护理管理硕士学位，现回国做硕士论文，论文题目为"中国云南省红河州三级医院护士灵性智能和工作绩效的相关性研究"。该课题需要在我州三家三级医院的护士群体中进行抽样，以发问卷的形式，由护士自行填写后回收。该课题针对护士灵性智能和工作绩效进行相关性研究，旨在提供灵性智能和工作绩效现状信息给医院和护理管理者，并为制定提高护理质量的策略提供科研依据，从而促进我州护理事业的发展。

该课题问卷由三部分组成：人口学特征问卷，中文版灵性智能自我评估量表及护理工作绩效简式量表。该课题遵循科学研究的伦理原则，资料收集以匿名的方式，研究结果以整体形式报告在论文中，且研究结果仅用于此次研究，决不作为其它任何用途，不会损害医院和护士的任何利益，也不会侵犯任何人的隐私权。

该课题拟在贵院的护士中收集资料，按照红河州第三人民医院在职护士数在总人群中的比例，本研究需要从红河州第三人民医院中随机抽取样本 104 人。特此提出申请，恳请得到贵院护理部的许可和协助。如贵院护理部同意，请您签字盖章

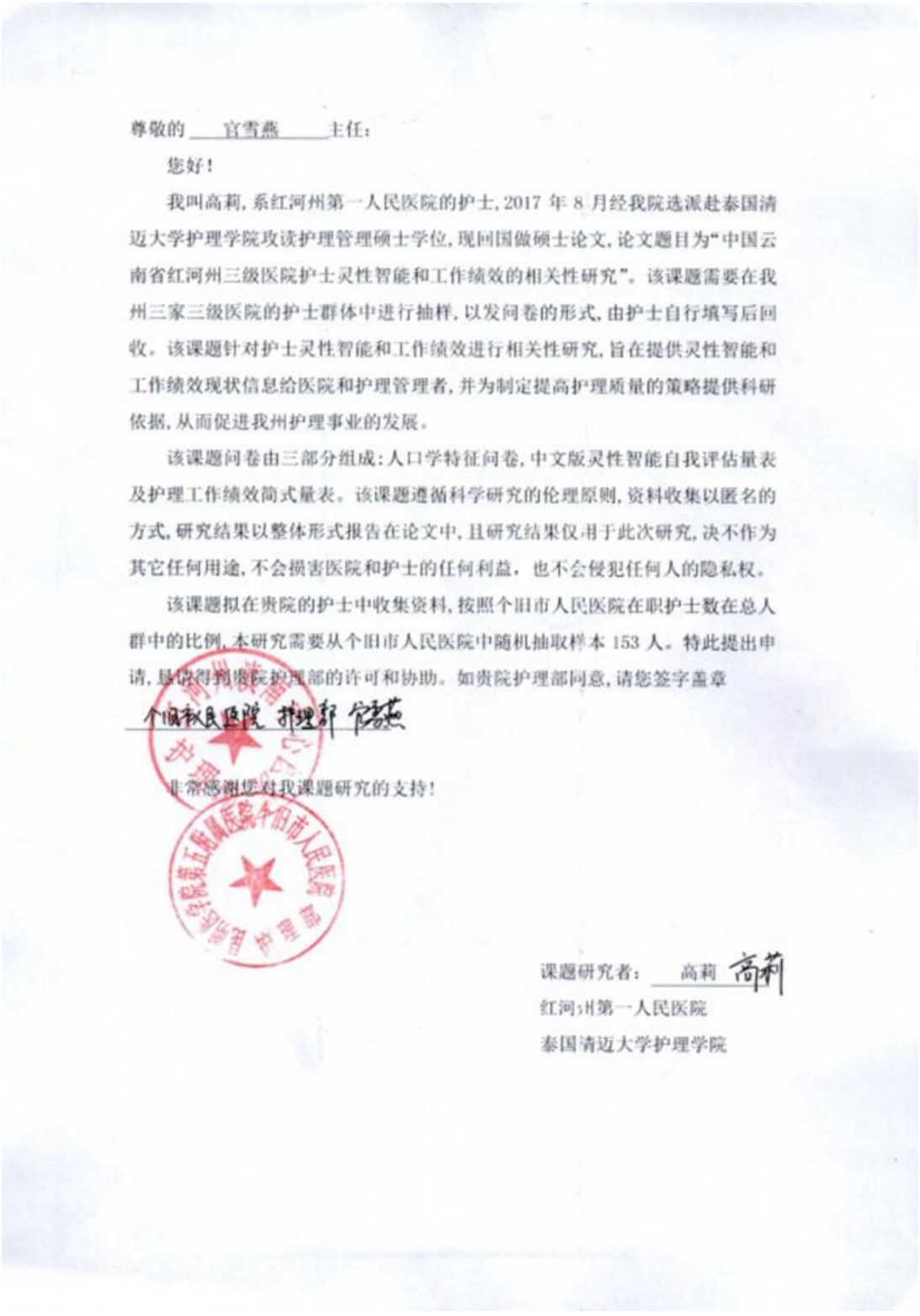
非常感谢您对我课题研究的支持！

课题研究者：高莉

红河州第一人民医院

泰国清迈大学护理学院

Permission of Data Collection from the People's Hospital of Gejiu City (Chinese)



尊敬的 官雪燕 主任：

您好！

我叫高莉，系红河州第一人民医院的护士，2017 年 8 月经我院选派赴泰国清迈大学护理学院攻读护理管理硕士学位，现回国做硕士论文，论文题目为"中国云南省红河州三级医院护士灵性智能和工作绩效的相关性研究"。该课题需要在我州三家三级医院的护士群体中进行抽样，以发问卷的形式，由护士自行填写后回收。该课题针对护士灵性智能和工作绩效进行相关性研究，旨在提供灵性智能和工作绩效现状信息给医院和护理管理者，并为制定提高护理质量的策略提供科研依据，从而促进我州护理事业的发展。

该课题问卷由三部分组成：人口学特征问卷，中文版灵性智能自我评估量表及护理工作绩效简式量表。该课题遵循科学研究的伦理原则，资料收集以匿名的方式，研究结果以整体形式报告在论文中，且研究结果仅用于此次研究，决不作为其它任何用途，不会损害医院和护士的任何利益，也不会侵犯任何人的隐私权。

该课题拟在贵院的护士中收集资料，按照个旧市人民医院在职护士数在总人群中的比例，本研究需要从个旧市人民医院中随机抽取样本 153 人。特此提出申请，恳请得到贵院护理部的许可和协助。如贵院护理部同意，请您签字盖章

个旧市人民医院 护理部 官雪燕

非常感谢您对我课题研究的支持！

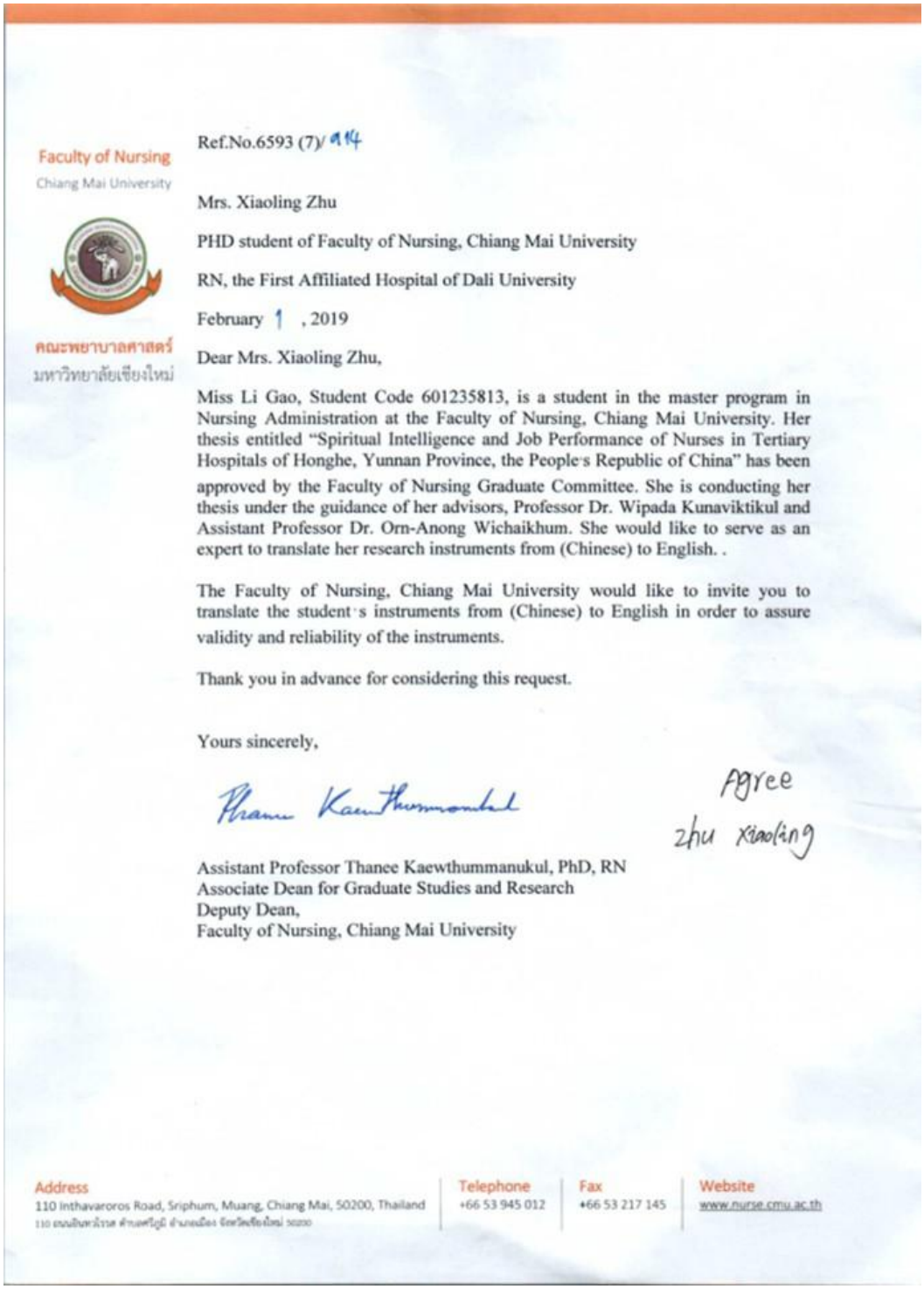
课题研究者：高莉 高莉

红河州第一人民医院

泰国清迈大学护理学院

APPENDIX M

Invitation Letter for Back-Translation



Faculty of Nursing
Chiang Mai University

คณะพยาบาลศาสตร์
มหาวิทยาลัยเชียงใหม่

Ref.No.6593 (7)/ 114

Mrs. Xiaoling Zhu

PHD student of Faculty of Nursing, Chiang Mai University

RN, the First Affiliated Hospital of Dali University

February 1 , 2019

Dear Mrs. Xiaoling Zhu,

Miss Li Gao, Student Code 601235813, is a student in the master program in Nursing Administration at the Faculty of Nursing, Chiang Mai University. Her thesis entitled "Spiritual Intelligence and Job Performance of Nurses in Tertiary Hospitals of Honghe, Yunnan Province, the People's Republic of China" has been approved by the Faculty of Nursing Graduate Committee. She is conducting her thesis under the guidance of her advisors, Professor Dr. Wipada Kunaviktikul and Assistant Professor Dr. Orn-Anong Wichaikhum. She would like to serve as an expert to translate her research instruments from (Chinese) to English. .

The Faculty of Nursing, Chiang Mai University would like to invite you to translate the student's instruments from (Chinese) to English in order to assure validity and reliability of the instruments.

Thank you in advance for considering this request.

Yours sincerely,

Agree
zhu xiaoling

Assistant Professor Thanee Kaewthummanukul, PhD, RN
Associate Dean for Graduate Studies and Research
Deputy Dean,
Faculty of Nursing, Chiang Mai University

Address
110 Inthavaroros Road, Sriphum, Muang, Chiang Mai, 50200, Thailand

Telephone
+66 53 945 012

Fax
+66 53 217 145

Website
www.nurse.cmu.ac.th

APPENDIX N

Mean and Standard Deviation of Each Item of Spiritual Intelligence

Table N1

Mean and Standard Deviation of Each Item of Spiritual Intelligence (n = 334)

Items	Mean	SD
Critical existential thinking		
1. I have often questioned or pondered the nature of reality.	2.09	1.13
3. I have spent time contemplating the purpose or reason for my existence.	2.31	1.08
5. I am able to deeply contemplate what happens after death.	1.47	1.34
9. I have developed my own theories about such things as life, death, reality, and existence.	1.62	1.17
13. I frequently contemplate the meaning of events in my life.	2.31	1.05
17. I have often contemplated the relationship between human beings and the rest of the universe.	1.41	1.13
21. I have deeply contemplated whether or not there is some greater power or force (e.g., god, goddess, divine being, higher energy, etc.).	1.40	1.24
Personal meaning production		
7. My ability to find meaning and purpose in life helps me adapt to stressful situations.	2.51	1.03
11. I am able to define a purpose or reason for my life.	2.57	1.02
15. When I experience a failure, I am still able to find meaning in it.	2.44	1.04
19. I am able to make decisions according to my purpose in life.	2.43	1.03
23. I am able to find meaning and purpose in my everyday experiences.	2.44	1.05
Transcendental awareness		
2. I recognize aspects of myself that are deeper than my physical body.	1.82	1.14
6. It is difficult for me to sense anything other than the physical and material.	2.64	1.14
10. I am aware of a deeper connection between myself and other people.	2.10	1.06
14. I define myself by my deeper, non-physical self.	2.00	1.02
18. I am highly aware of the nonmaterial aspects of life.	2.15	1.12

Table N1 (continued)

Items	Mean	SD
20. I recognize qualities in people which are more meaningful than their body, personality, or emotions.	2.66	1.06
22. Recognizing the nonmaterial aspects of life helps me feel centered.	2.19	1.11
Conscious state expansion		
4. I am able to enter higher states of consciousness or awareness.	1.94	1.08
8. I can control when I enter higher states of consciousness or awareness.	1.72	1.15
12. I am able to move freely between levels of consciousness or awareness.	1.88	1.09
16. I often see issues and choices more clearly while in higher states of consciousness/awareness.	2.18	1.00
24. I have developed my own techniques for entering higher states of consciousness or awareness.	1.72	1.13

Table N2

Mean and Standard Deviation of Each Item of Job Performance (n =334)

Task performance	Mean	SD
Social support		
1. Listening to patient's concerns	4.8	1.43
2. Taking time to meet the emotional needs of patients	4.35	1.42
3. Listening to families' concerns	4.50	1.53
4. Taking time to meet the emotional needs of families	4.26	1.49
Information provision		
5. Communicating to patients the purpose of nursing procedures	5.04	1.52
6. Informing patients of the purpose and possible side-effects of nursing procedures	5.13	1.47
7. Providing appropriate information to families about nursing procedures	4.94	1.45
8. Providing instructions for care at home	4.26	1.53
Technical care		
9.Assisting patients with activities of daily living (e.g., showering, toileting, and feeding)	4.58	1.61
10. Taking patient observations (e.g., blood pressure, pulse, temperature)	5.94	1.37
11. Administering medications and treatments	5.61	1.50

Table N3

Mean and Standard Deviation of Each Item of Job Performance (n =334)

Contextual performance	Mean	SD
Interpersonal support		
12. Taking time to meet other nurses' emotional needs	4.56	1.30
13. Raising morale of other nurses in my unit	4.84	1.44
14. Helping nurses in my unit to resolve work problems	5.13	1.39
15. Consulting among each other when actions might affect other nurses in my unit	5.37	1.38
16. Volunteering to share special knowledge or expertise with other nurses in my unit	5.37	1.36
Job-task support		
17. Taking extra time to respond to a patient's needs	4.58	1.36
18. Making special arrangements for the patient	4.19	1.48
19. Taking extra time to respond to a family's needs	4.28	1.43
20. Making special arrangements for a patient's family	3.97	1.56
Organizational support		
21. Making sure that materials and equipment are not wasted	5.41	1.32
22. Representing the hospital favorably to individuals outside the hospital	5.13	1.45
23. Volunteering to participate on committees that are not compulsory	4.95	1.52
24. Making innovative suggestions to improve the overall quality of the hospital	4.54	1.46
25. Attending and participating in meetings regarding the hospital	5.00	1.47

APPENDIX O

Frequency and Percentage of Each Item of Spiritual Intelligence and Job Performance

Frequency and Percentage of Each Item of Spiritual Intelligence

Table O1

Frequency and Percentage of Each Item of Spiritual Intelligence (n = 334)

Spiritual intelligence	0 n(%)	1 n(%)	2 n(%)	3 n(%)	4 n(%)
Critical existential thinking					
1. I have often questioned or pondered the nature of reality.	29(8.7)	75(22.5)	101(30.2)	94(28.1)	35(10.5)
3. I have spent time contemplating the purpose or reason for my existence.	17(5.1)	58(17.4)	116(34.7)	92(27.5)	51(15.3)
5. I am able to deeply contemplate what happens after death.	109(32.6)	75(22.5)	65(19.5)	53(15.9)	32(9.6)
9. I have developed my own theories about such things as life, death, reality, and existence.	72(21.6)	81(24.3)	101(30.2)	61(18.3)	19(5.7)
13. I frequently contemplate the meaning of events in my life.	17(5.1)	57(17.1)	109(32.6)	108(32.3)	43(12.9)
17. I have often contemplated the relationship between human beings and the rest of the universe.	88(26.3)	94(28.1)	94(28.1)	44(13.2)	14(4.2)
21. I have deeply contemplated whether or not there is some greater power or force (e.g., god, goddess, divine being, higher energy, etc.).	107(32.0)	77(23.1)	79(23.7)	52(15.6)	19(5.7)
Personal meaning production					
7. My ability to find meaning and purpose in life helps me adapt to stressful situations.	12(3.6)	47(14.1)	88(26.3)	133(39.8)	54(16.2)
11. I am able to define a purpose or reason for my life.	10(3.0)	34(10.20)	117(35.0)	103(30.8)	70(21.0)
15. When I experience a failure, I am still able to find meaning in it.	15(4.5)	43(12.9)	110(32.9)	112(33.5)	54(16.2)

Table O1 (continued)

Spiritual intelligence	0 n(%)	1 n(%)	2 n(%)	3 n(%)	4 n(%)
19. I am able to make decisions according to my purpose in life.	13(3.9)	45(13.50)	112(33.5)	112(33.5)	52(15.6)
23. I am able to find meaning and purpose in my everyday experiences.	12(3.6)	51(15.3)	105(31.4)	110(32.9)	56(16.8)
Transcendental awareness					
2. I recognize aspects of myself that are deeper than my physical body.	51(15.3)	79(23.7)	106(31.7)	75(22.5)	23(6.9)
6. It is difficult for me to sense anything other than the physical and material.	14(4.2)	48(14.4)	70(21.0)	113(33.8)	89(26.6)
10. I am aware of a deeper connection between myself and other people.	21(6.3)	78(23.4)	116(34.7)	85(25.4)	34(10.2)
14. I define myself by my deeper, non-physical self.	21(6.3)	86(25.7)	124(37.1)	78(23.4)	25(7.5)
18. I am highly aware of the nonmaterial aspects of life.	26(7.8)	69(20.7)	112(33.5)	84(25.1)	43(12.9)
20. I recognize qualities in people which are more meaningful than their body, personality, or emotions.	10(3.0)	39(11.7)	89(26.6)	113(33.8)	83(24.9)
22. Recognizing the nonmaterial aspects of life helps me feel centered.	24(7.2)	68(20.4)	104(31.1)	96(28.7)	42(12.6)
Conscious state expansion					
4. I am able to enter higher states of consciousness or awareness.	34(10.2)	80(24.0)	117(35.0)	78(23.4)	25(7.5)
8. I can control when I enter higher states of consciousness or awareness.	56(16.8)	88(26.3)	107(32.0)	59(17.7)	24(7.2)
12. I am able to move freely between levels of consciousness or awareness.	43(12.9)	75(22.5)	113(33.8)	85(25.4)	18(5.4)
16. I often see issues and choices more clearly while in higher states of consciousness/awareness.	17(5.1)	71(21.3)	105(31.4)	118(35.3)	23(6.9)
24. I have developed my own techniques for entering higher states of consciousness or awareness.	54(16.2)	92(27.5)	103(30.8)	65(19.5)	20(6.0)

Frequency and Percentage of Each Item of Job Performance

Table O2

Frequency and Percentage of Each Item of Job Performance (n = 334)

Task performance	1 n(%)	2 n(%)	3 n(%)	4 n(%)	5 n(%)	6 n(%)	7 n(%)
Social support							
1. Listening to patient's concerns	2(0.6)	16(4.8)	47(14.1)	72(21.6)	97(29.0)	46(13.8)	54(16.2)
2. Taking time to meet the emotional needs of patients	9(2.7)	25(7.5)	49(14.7)	107(32.0)	68(20.4)	53(15.9)	23(6.9)
3. Listening to families' concerns	9(2.7)	26(7.8)	49(14.7)	85(25.4)	73(21.9)	54(16.2)	38(14.1)
4. Taking time to meet the emotional needs of families	12(3.6)	29(8.7)	61(18.3)	88(26.3)	69(20.7)	53(15.9)	22(6.6)
Information provision							
5. Communicating to patients the purpose of nursing procedures	0(0.0)	23(6.9)	36(10.8)	60(18.0)	73(21.9)	68(20.4)	74(22.2)
6. Informing patients of the purpose and possible side-effects of nursing procedures	1(0.3)	12(3.6)	38(11.4)	65(19.5)	79(23.7)	55(16.5)	84(25.1)
7. Providing appropriate information to families about nursing procedures	0(0.0)	17(5.1)	42(12.6)	75(22.5)	70(21.0)	70(21.0)	60(18.0)
8. Providing instructions for care at home	7(2.1)	35(10.5)	76(22.8)	72(21.6)	62(18.6)	55(16.5)	27(8.1)
Technical care							
9. Assisting patients with activities of daily living (e.g., showering, toileting, and feeding)	10(3.0)	27(8.1)	50(15.0)	76(22.8)	61(18.3)	63(18.9)	47(14.1)
10. Taking patient observations (e.g., blood pressure, pulse, temperature)	0(0.0)	8(2.4)	15(4.5)	36(10.8)	48(14.4)	50(15.0)	177(53.0)
11. Administering medications and treatments	2(0.6)	10(3.0)	23(6.9)	48(14.4)	56(16.8)	54(16.2)	141(42.2)

Table O3

Frequency and Percentage of Each Item of Job Performance (n = 334)

Contextual performance	1 n(%)	2 n(%)	3 n(%)	4 n(%)	5 n(%)	6 n(%)	7 n(%)
Interpersonal support							
12.Taking time to meet other nurses' emotional needs	4(1.2)	13(3.9)	55(16.5)	79(23.7)	114(34.1)	42(12.6)	27(8.1)
13. Raising morale of other nurses in my unit	4(1.2)	8(2.4)	61(18.3)	55(16.5)	95(28.4)	58(17.4)	53(15.9)
14. Helping nurses in my unit to resolve work problems	2(0.6)	10(3.0)	36(10.8)	51(15.3)	95(28.4)	75(22.5)	65(19.5)
15. Consulting among each other when actions might affect other nurses in my unit	2(0.6)	5(1.5)	32(9.6)	45(13.5)	83(24.9)	79(23.7)	88(26.3)
16. Volunteering to share special knowledge or expertise with other nurses in my unit	2(0.6)	5(1.5)	32(9.6)	41(12.3)	86(25.7)	83(24.9)	85(25.4)
Job-task support							
17. Taking extra time to respond to a patient's needs	5(1.5)	16(4.8)	50(15.0)	83(24.9)	99(29.6)	50(15.0)	31(9.3)
18. Making special arrangements for the patient	13(3.9)	22(6.6)	85(25.4)	72(21.6)	75(22.5)	45(13.5)	22(6.6)
19. Taking extra time to respond to a family's needs	11(3.3)	21(6.3)	67(20.1)	91(27.2)	75(22.5)	46(13.8)	23(6.9)
20. Making special arrangements for a patient's family	20(6.0)	34(10.2)	88(26.3)	68(20.4)	60(18.0)	45(13.5)	19(5.7)

Table O3 (continued)

Contextual performance	1 n(%)	2 n(%)	3 n(%)	4 n(%)	5 n(%)	6 n(%)	7 n(%)
Organizational support							
21.Making sure that materials and equipment are not wasted	0(0.0)	6(1.8)	29(8.7)	45(13.5)	80(24.0)	91(27.2)	83(24.9)
22.Representing the hospital favorably to individuals outside the hospital	3(0.9)	10(3.0)	40(12.0)	54(16.2)	78(23.4)	78(23.4)	71(21.3)
23. Volunteering to participate on committees that are not compulsory	7(2.1)	12(3.6)	48(14.4)	49(14.7)	89(26.6)	66(19.8)	63(18.9)
24. Making innovative suggestions to improve the overall quality of the hospital	4(1.2)	22(6.6)	64(19.2)	67(20.1)	95(28.4)	42(12.6)	40(12.0)
25. Attending and participating in meetings regarding the hospital	6(1.8)	9(2.7)	43(12.9)	54(16.2)	96(28.7)	60(18.0)	66(19.8)

APPENDIX P

The Results of Kolmogorov-Smirnov's (KS) Test of Spiritual Intelligence and Job Performance

Table P

The Results of KS Test (n = 334)

	Spiritual intelligence	Task performance	Contextual performance
Kolmogorov-Smirnov Z	.676	.991	.960
Asymp.Sig. (2-tail)	.750	.280	.315

APPENDIX Q

The Results of Scatterplot of Spiritual Intelligence and Job Performance

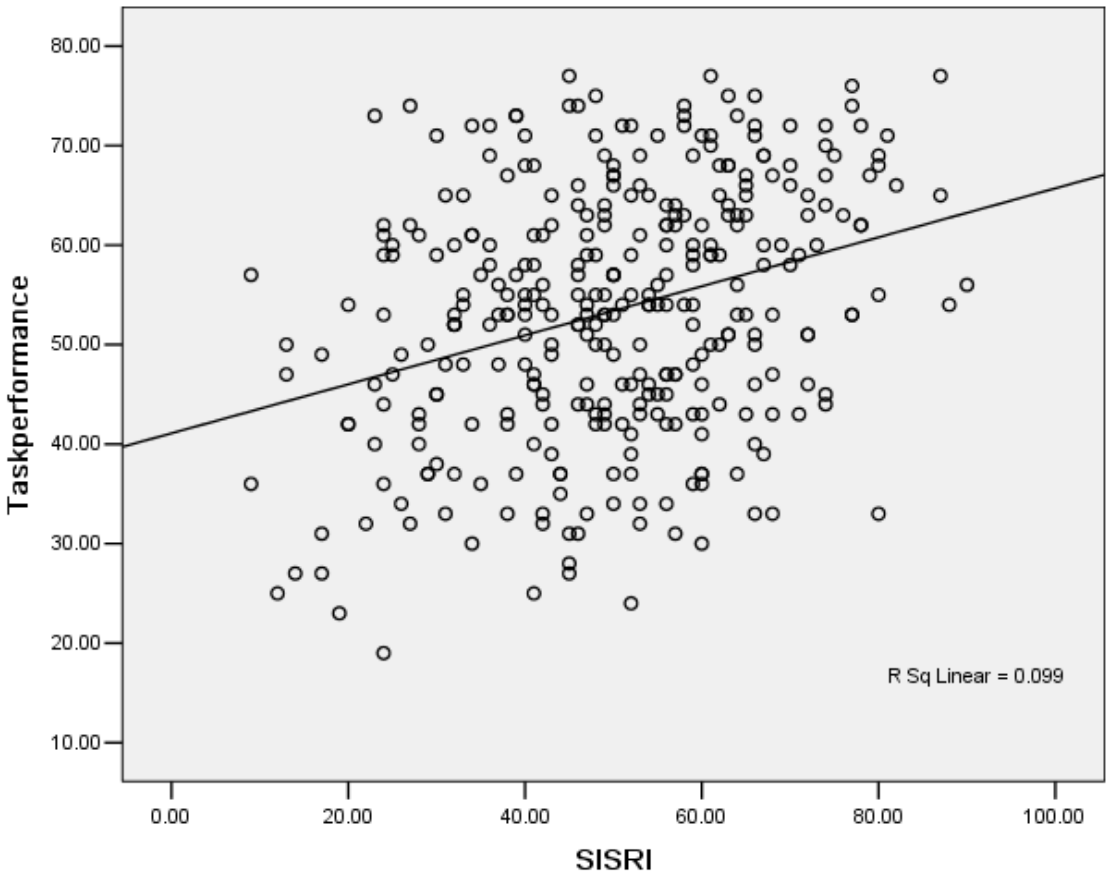


Figure Q1. The results of Scatterplot of spiritual intelligence and task performance (n = 334)

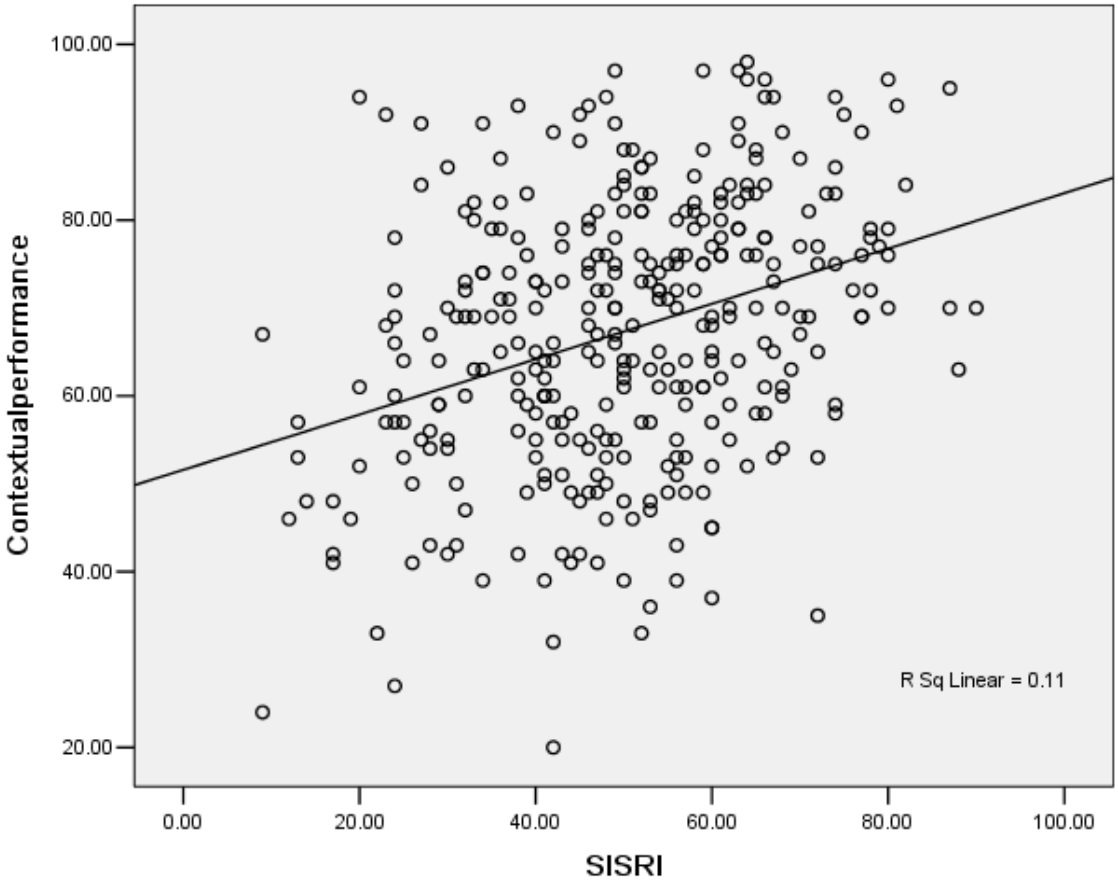


Figure Q2. The results of Scatterplot of spiritual intelligence and Contextual performance (n = 334)

APPENDIX R

The Result of Homoscedasticity of Spiritual Intelligence and Job Performance

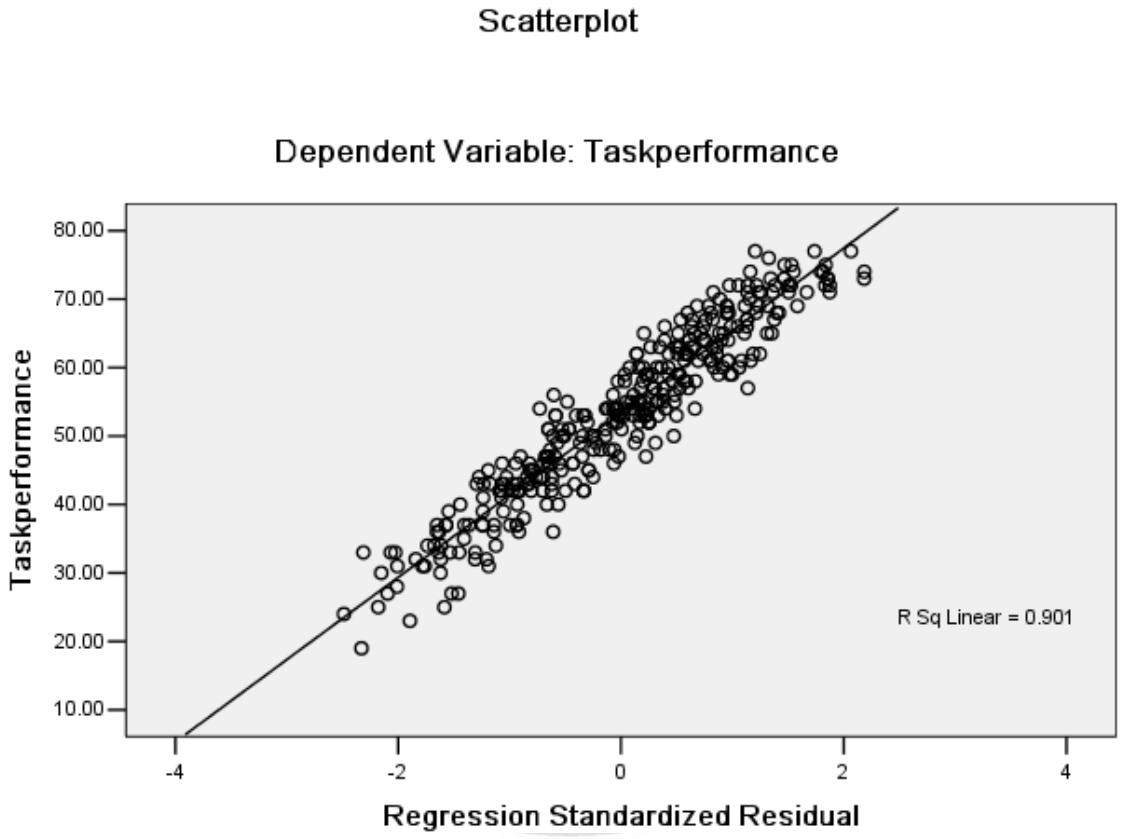


Figure R1. The results of Homoscedasticity of spiritual intelligence and task performance (n = 334)

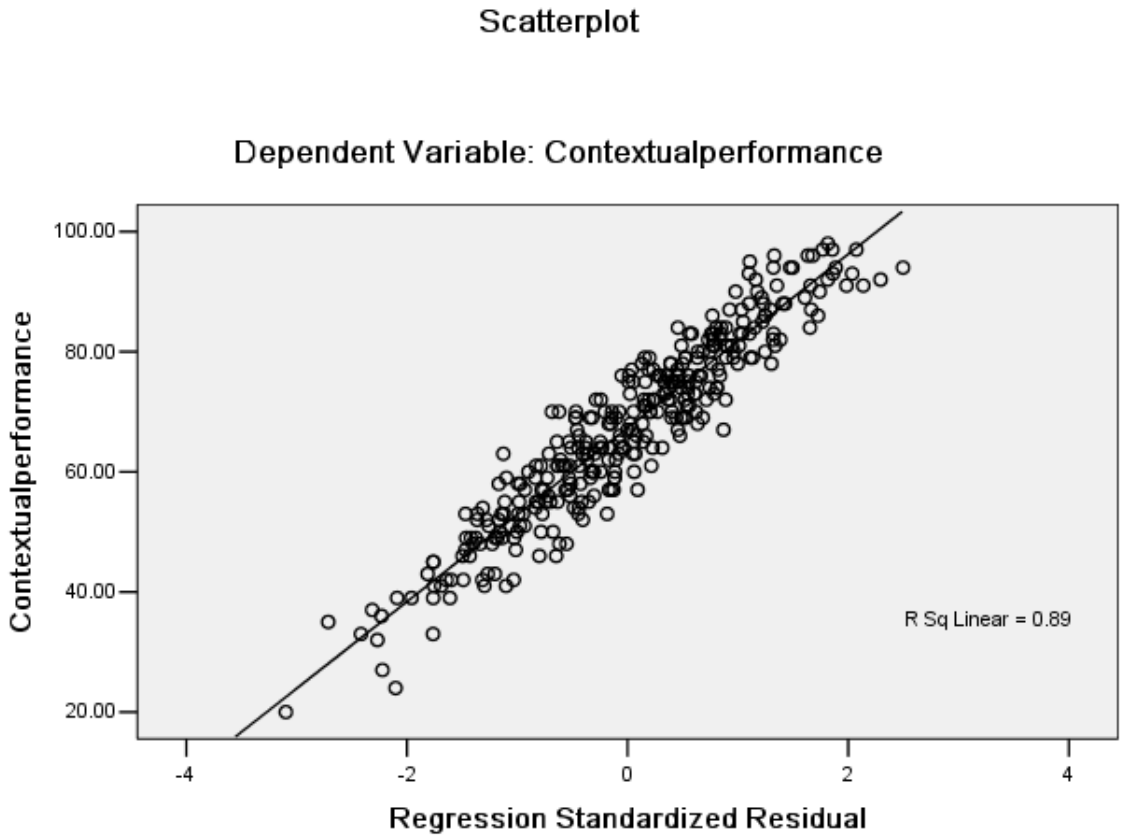


Figure R2. The results of Homoscedasticity of spiritual intelligence and contextual performance (n = 334)

CURRICULUM VITAE

Name Miss Gao Li

Date of Birth January 13, 1992

Educational Background

2011 - 2015 Bachelor Degree in Nursing Science,
Dali University, Yunnan Province,
the People's Republic of China

Professional Experiences

2015 – present Staff nurse in Neurology Department of the First People's Hospital of Honghe State,
Yunnan Province, the People's Republic of China