CHAPTER 1

Introduction

Background and Significance of the Research Problem

Healthcare organizations are pursuing change and innovation because of market changes such as the expansion of patient' rights, the emergence of consumerism, and increased competition among medical institutions (Kim & Park, 2015). Motivating members' to have innovative behaviors in an organization is important to pursue continuous adaptation to a changing environment because these individuals are the primary agents who develop and execute innovative ideas. Innovations of health care are related to product, process, or structure (Varkey, Horne, & Bennet, 2008). As core members of the health care profession, nurses are in a vital position to provide creative and innovative actions, processes, care plans and services that can make a real difference to the day-to-day lives of patients, organizations, communities and professions. It is necessary to cultivate nurses who have innovative behavior, because it will directly influence the innovative ability of the whole hospital (Dong, 2012), as well as the reputation of the hospital and customer satisfaction of hospitals (Kim & Park, 2015).

Since 2010, the People's Republic of China has launched the "High Quality Care Demonstration Project" which is based on holistic nursing care. This led to major reforms in Chinese nursing, as it not only enabled nursing to change from providing functional nursing care to holistic nursing care, but it also requires nurses do more in order to improve the quality of care (Department of Medical Administration of China, 2010). Furthermore, the national regulation, "the New Technique and Project Regulatory Regime" requires all hospital professionals to try new techniques and projects (Zhou & Liu, 2006). Some Chinese hospitals have enacted relevant regulations for nurses within

their facilities to create and promote nursing innovation. For instance, Shiyan People's Hospital enacted "Nursing New Techniques and Projects Management Regulation" (2015) which clearly states the classification, procedure, encouragement and premiums of nursing innovation, aims to enhance nurses' innovative awareness and ability, and promotes the development of nursing science. Therefore, there is a need to increase the innovative behavior of nurses in the P. R. China.

Innovative behavior is an individual behavior that applies and implements many beneficial and new ideas into organization (Kleysen & Street, 2001). Bao, Wang, and Zhang (2012) defined innovative behavior as an act of seeking and developing new methods, techniques and work patterns, introducing and applying the new idea into nursing work. The researchers stated there are three stages for innovative behavior idea generation, support obtaining and idea realization. Idea generation refers to the acts of identifying problems and generating ideas or solutions. The ideas or solutions can be original or already existing. Support obtaining refers to the acts of seeking other people to support the ideas and solutions while building a coalition. Idea realization refers to the acts of transferring a new idea into prototype or model, which can be touched or felt, and it can be produced on a large scale or institutionalized, therefore, generalizing to others (Bao, Wang, & Zhang, 2012).

There were several studies which are related to innovative behavior among nurses. A study which was conducted among 251 nurses in California indicated a moderate level of innovative behavior ($\bar{x}$ = 3.17) (Bunpin, Chapman, Blegen, & Spetz, 2016). The results of two studies which were conducted in Vietnam (Tung, 2013) and Italy (Odoardi, 2014) illustrated a low level of innovative behavior of nurses ($\bar{x}$ = 2.36, SD = .36; $\bar{x}$ = 2.82, SD = .83, respectively). In the P. R. China, several studies showed a moderate level of innovative behavior among nurses with the mean score ranging from 2.64 to 4.32 in Zhejiang (Lin & Guo, 2013; Zhu, Yang, & Sun, 2014), Harbin (Liu, Li, Fan, & Zheng, 2015), Shanghai (Bao, Zhang, Zhang, Wang, & Qian, 2013) and Shandong (Yang, 2015). The different

mean scores of innovative behavior of nurses in P. R. China might be because different strategies were adopted for nursing innovation in different cities or hospitals. Several hospitals have held the nursing innovation competition, set funds for nursing innovation, as well as set specific policy of nursing innovation in order to motivate and support nurses to perform more innovative behavior (Gao, Li, & Chen, 2016). In contrast, there are less measures adopted to motivate nurses to perform more innovative behavior in some hospitals, such as at Dali Bai Autonomous Hospitals. Only one nursing innovation competition was held in 2015, but once nurses have created a new project or process, the hospital might give them sufficient support to apply for a patent (Chen, Chu, Han, & Wang, 2015). These situations may influence the innovative behavior of nurses in Autonomous Hospital.

Innovative behavior was influenced by many factors, such as conflict with co-workers, turnover intention (Janssen, 2003), or transformational leadership style (Khan, Aslam, & Riaz, 2012). Moreover, it was found that there is a relationship between innovative behavior with these four factors: job title, educational attainment, knowledge sharing and job autonomy. Numerous studies stated that job title has a strong positive relationship with innovative behavior (Bao et al., 2013; Lin & Guo, 2013; Wang & Ding, 2012; Zhu et al., 2014). Job title is a logogram of "the title of a technical or professional post" and it refers to the work position of Chinese nurses. Job title is a key indicator to assess the professional skills of nurses in hospitals, and it reflects a nurse's professional knowledge and skill levels, and represents the ability of work and work achievements (Jia, Liu, & Yang, 2012). According to the Chinese policy "Regulations for the title and promotion of health technical personnel" (2013), nurses, who are key persons to provide direct nursing care, consist of junior nurse, senior nurse, nurse in charge, assistant chief senior nurse and chief senior nurse. A nurse in charge has more experience than a senior nurse while a senior nurse has more experience than a junior nurse. The nurses with higher job titles may have more experience in innovation, while an incentive from the organization can stimulate them, they may perform more innovative behavior beyond

their responsibilities (Zhao & Wang, 2013). Li (2014) considered a nurse with a higher level of job title as one who may obtain more opportunities to learn new knowledge and skills. The nurse positioned in a higher level is usually the mainstay nurse in a team, and is usually more respected from their peers, and thus it is more probable and easier for these nurses in leadership positions to implement a new idea or activity with sufficient support from co-workers (Wang, 2015).

Several previous studies in the P. R. China support the relationship between job title and innovative behavior (Bao et al., 2013; Li, 2014; Lin & Guo, 2013; Yan & Shang, 2015; Zhu et al., 2014). A study stated the average score of innovative behavior in the nurse in charge and above (28.66 points) is higher than nurses' (25.47 points) (Bao et al., 2013). Wang (2015) describes job title as an important predictor of innovative behavior ($\beta = 0.013$, $P < .05$) and the higher the job title, the more creative awareness of the clinical nurse. Almost all previous Chinese studies reported a positive relationship between job title and innovative behavior. Although the nurses' job title were named by the same terms, there is no exact national policy to guide the promotion of job title of nurses. Also, there are some differences on promotion criteria among provinces, even among hospitals. Therefore, it is necessary to explore the relationship of job title and innovative behavior among nurses in Autonomous Hospitals, the P. R. China.

Educational attainment is another factor related to innovative behavior, which refers to the highest level of education that an individual has completed (Census Beaurau, 2016). In the P. R. China, there are five categories of educational attainment for nurses: diploma program, associate degree, bachelor's degree, master's degree and doctoral degree (Deng, 2015). Bao et al. (2013) stated that during the process of nursing reformation in the P. R. China, managers and leaders expect nurses who have a higher degree will have a great ability to generate more ideas and activities. Thus, more opportunities were provided to them to learn and develop new knowledge and skills. In addition, nurses with higher degrees usually master certain management and research skills, they may undertake different nursing tasks than lower degree holders, thus they may obtain more

opportunities to share and gain knowledge in different areas to generate idea (Xue & Li, 2010). Thus the nurses with higher education may perform more innovative behavior.

Several Chinese studies which have explored the relationship between educational attainment and innovative behavior have shown the inconsistent results. Some studies indicated a positive relationship. For instance, Bao et al. (2013) investigated innovative behavior among 820 nurses in Shanghai and found educational attainment is positively related to innovative behavior ($F=10.07$, $p < .01$). Li (2014) reported a positive relationship between educational attainment among 1,165 nurses in Harbin (beta = 0.089, $p < .05$). Liu (2014) also studied the relationship between organizational climate and innovative behavior among 1,208 nurses in Harbin and the results indicated a positive relationship between educational attainment and innovative behavior (beta = .102, $p < .05$). However, some researchers reported there is no relationship between educational attainment and innovative behavior. Wang and Ding (2012) investigated the effect of psychological capital on nurses' innovative behavior in Tianjin. The findings indicated no relationship between educational attainment and innovative behavior ($F = 0.17$, $p = 0.84$). Zhu et al. (2014) studied innovative behavior among 346 clinical nurses and the results showed no relationship between educational attainment and innovative behavior ($F = 0.689$, $P = 0.503$). The inconsistent results of the relationship between educational attainment and innovative behavior make it valuable to replicate and explore the relationship of educational attainment and innovative behavior in other provinces of the P. R. China.

Knowledge sharing and job autonomy are modified factors that relate to innovative behavior. Nowadays, hospital organizations realize that knowledge sharing can help them to use their current competencies or develop new and innovative ideas, services, products, processes and solutions (Lee & Hong, 2014). Knowledge sharing can transfer knowledge from an individual level to an organizational level, and hence it brings competitive value for the organization (IPE, 2003, as cited in Yi, 2009). Based on Bartol and Srivastava (2002), Yi (2009) defined knowledge sharing as a set of individual behaviors involving sharing one's work-related knowledge and expertise with other members within one's

organization, which can contribute to the ultimate effectiveness of the organization. Knowledge sharing comprises of four dimensions: written contributions, organizational communications, personal interactions and communities of practice. In the P. R. China, Chen and Wu (2015) translated into Chinese and modified the knowledge sharing behavior scale (Yi, 2009) to investigate knowledge sharing behavior among tertiary hospital nurses. The results showed a lower level of nurses' knowledge sharing behavior (mean score = 2.41).

In the P. R. China, the majority of hospitals implement knowledge sharing instead of knowledge management (Ge, Liu, & Yang, 2016). A few hospitals have already built nursing knowledge platforms to manage nursing knowledge. Since 2005, a hospital information system has been commonly used in all tertiary hospitals, but most hospitals cannot utilize it sufficiently to share nursing knowledge. Instead the focus is on medical knowledge (Chen, Liu, & Wu, 2016). Commonly, all hospitals sharing nursing knowledge via hospital conferences, small teaching lectures for small groups of staff nurses, nursing rounds and consultations, clinical nursing teaching, organizing voluntary groups around topics of interest and nursing documents which are ketp in the departments, as well as interpersonally communications. Some researchers (Ge et al., 2016) stated that nurses may lack awareness of sharing and are too busy to perform extra behaviors. Thus, the barriers of the organization, personal and technical may influence nurses' knowledge sharing.

A few studies illustrated the relationship between knowledge sharing and innovative behavior. For example, Aktharsha and Sengottuvel (2016) showed a positive correlation of knowledge sharing and innovative behavior among 175 nurses in India (beta = 0.438, $p < 0.05$). Kim and Park (2015) found knowledge sharing influenced innovative behaviors among 347 nurses in South Korea (beta = 0.406, $p < 0.05$). Radaelli, Lettieri, Mura, and Spiller (2014) indicated nurses' knowledge sharing directly affect innovative behavior among 155 palliative care organization nursing staffs in Italy ($\beta = 0.303$, $p < 0.01$). Wang and Ding's (2012) study indicated the positive relationships between innovative

behavior with knowledge donating (r = .463, p<.01) and collecting (r = .450, p<.01) among 420 nurses in China. Bao et al. (2012) stated that innovative behavior encompasses idea generation, support obtaining and idea realization. Creating is on the top of the hierarchy of Bloom's Taxonomy (Forehand, 2010). It means creating and innovating are the knowledge-based outcomes. Knowledge sharing can stimulate individuals to think more critically and creatively (Aulawi, Sudirman, Suryadi, & Govindara, 2009). Individuals who address innovative behavior should maintain managing knowledge, and in particular elaborate, recombine, translate and disseminate knowledge (Quintane, Casselman, Reiche, & Nylund, 2011). In addition, individuals may seek support from their co-workers and their organization and communicate these ideas or solutions to others. Then, the innovative nurses can seek sponsorship via communication, build a coalition, while coordinating and integrating different sets of knowledge with other individuals or teams (Tucker, Nembhard, & Edmondson, 2007). Based on the literature, knowledge sharing is a factor influencing innovative behavior. However, there is a gap of knowledge about the relationship between knowledge sharing and innovative behavior. Although some studies supported the relationship between knowledge sharing behavior and innovative behavior, there was a study which reported no relationship between the two concepts (Yesil & Hirlak, 2013). In addition, only one study has been done in the P. R. China and the findings of Tianjin cannot be generalized into health care settings for all of the P. R. China. Thus, more studies should be conducted to explore the relationship between knowledge sharing and innovative behavior among nurses.

Another modified factor is job autonomy which is defined as the degree of control or discretion that a worker is able to exercise with respect to three facets of autonomy (Breaugh, 1985): a) work method autonomy which refers to the degree of discretion/choice individuals have regarding the procedures (methods) they utilize in going about their work; b) work scheduling autonomy which refers to the extent to which workers feel they can control the scheduling, sequencing or timing of their work activities; c) work criteria

autonomy which refers to the degree to which workers have the ability to modify or choose the criteria used for evaluating their performance.

Job autonomy was introduced as an antecedent of innovative behavior. A study showed a positive relationship between job autonomy and innovative behavior among nurses (r = 0.477, P = 0.018) (Zhu et al., 2014). Several studies indicated a positive correlation between job autonomy and innovative behavior among teachers and employees in different countries (De Spiegelaere, Van Gyes, De Witte, & Hootegem, 2015; De Spiegelaere, Van Gyes, De Witte, Niesen, & Hootegem, 2014; Ramamoorthy, Flood, Slattery, & Sardessai, 2005; Sazandrishvili, 2009). Job autonomy increases individuals' sense of responsibility and ownership at work, their breadth of understanding and perspective taking, job autonomy also can facilitate incremental learning along with the development of expertise and individual's control beliefs to promote and implement change. Therefore, these mechanisms enhance the likelihood that employees will engage in the generation and pursuit of ideas (Wu, Parker, & De Jong, 2014). Similarly to De Spiegelaere et al. (2015) who stated that job autonomy gives employees (a sense of) control over how they do their work which enables them to find and develop fitting ways to perform work tasks. As a consequence, the employees will not only do a better job, but will also try to be more creative and innovative. Although, literature supported the relationship between job autonomy and innovative behavior, there is a gap of knowledge about this issue. Only one study has been conducted among nurses in the P. R. China by using a subscale which has questionable validity and reliability according to some scholars (Kiggundu, 1983; Vroom, 1964, as cited in Breaugh, 1985). Therefore, it is beneficial to explore the relationship among Chinese nurses.

Yunnan province is located in southwest of the P. R. China. There are four levels of administration: province, prefecture, country and township level divisions. The Autonomous Hospital, which belongs to the prefecture-level division, not only meets the criteria of secondary or tertiary hospital, but also has an obligation to provide special services to minority groups and has the right to set regulations of administration based on

the characteristics of the minority group (Personal communication, 2016). The nurse to population ratios were quite low in Chuxiong (1.95), Dali (1.80) and Dehong (1.72) autonomous prefectures (Yunnan News, 2016). Nurses who work in Autonomous Hospitals may have a high workload. The criteria for job title promotions are different among provinces even among different hospitals in the same province. This may lead some different situations of job title in Autonomous Hospitals which are starting to implement the "Nurse hierarchical management system". Though nurses with a bachelor's degree will still have to provide basic nursing care because of the nursing shortage. Nurses share knowledge via common methods, such as personal interaction, documents and lectures. The lack of the channels of the Internet and communities may influence nurses' knowledge sharing behaviors. During the nursing transformation, the new role of "primary nurse" requires nurses to actively provide nursing services. This may empower nurses more freedom to work. Therefore, Autonomous Hospitals have different situations than other settings, it will be beneficial to study innovative behavior among nurses in Autonomous Hospitals, Yunnan province, the P. R. China.

From previous studies, there were inconsistent results of innovative behavior in different countries. In P. R. China, previous studies showed a moderate level of innovative behavior of nurses, but no study was conducted in Autonomous Hospitals in Yunnan which adopted less strategies for motivating and supporting nursing innovation. This may influence the innovative behavior of nurses in Autonomous Hospitals. Some previous studies support these four factors including job title, educational attainment, knowledge sharing and job autonomy which are positively related to nurse innovative behavior, but some studies indicated there is no relationship between educational attainment, knowledge sharing and innovative behavior respectively. In addition, in the P. R. China, only one study was conducted to explore the relationship of nurse innovative behavior with knowledge sharing and job autonomy Thus, the results cannot generalize the whole Chinese situation, while job autonomy was measured by a doubtful subscale which has been questioned for its validity and reliability by some scholars (Kiggundu, 1983; Vroom, 1964, as cited in Breaugh, 1985). Furthermore, there is also a gap of knowledge in that no

study has addressed which factors are related to innovative behavior of nurses in Autonomous hospitals, Yunnan province, the P. R. China. Thus, this study was conducted to fill these gaps of knowledge.

Research Objectives

1. To examine innovative behavior of nurses in Autonomous Hospitals, the People's Republic of China.

2. To explore factors related to innovative behavior of nurses in Autonomous Hospitals, the People's Republic of China.

Research Questions

1. What is the level of innovative behavior of nurses in Autonomous hospitals, the People's Republic of China?

2. What are the factors related to innovative behavior of nurses in Autonomous hospitals, the People's Republic of China?

Definition of Terms

The operational definitions for this study include:

Innovative behavior refers to an act of nurses in autonomous hospitals, the P. R. China, of seeking and developing new methods, techniques and work patterns, and introducing and applying the new idea into work. Innovative behavior contains three stages, including idea generation, support obtaining and idea realization. It was measured by the Nurse Innovative Behavior Scale which was developed by Bao et al. (2012).

Factors refer to antecedent variables that associated with innovative behavior of nurses in autonomous hospitals, the P. R. China. Including job title, educational attainment, knowledge shairng and job autonomy as follows:

Job title refers to the work position of a Chinese nurse. It includes junior and senior nurse.

Educational attainment refers to the highest level of education among nurses. It includes diploma, associate degree and bachelor's degrees.

Knowledge sharing refers to a set of nurses' behaviors involving sharing one's work-related knowledge and expertise with other nurses within a team or a hospital, which can contribute to the ultimate effectiveness of the organization. It contains four dimensions which are written contributions, organizational communications, personal interactions, and communities of practice. Knowledge sharing was measured by the Chinese Knowledge Sharing Behavior Scale which was developed by Chen and Wu (2015).

Job autonomy refers to the degree of control or discretion a nurse is able to exercise with respect to these three work facets (method, scheduling and criteria). It was measured by the Work Autonomy Scale (WAS) which was developed by Breaugh (1985) and was translated into Chinese by the researcher.

Nurses refer to persons who graduated from an approved nursing education institution, hold the certificate which is granted by the Ministry of Health of China, and work in the clinical departments of tertiary autonomous prefecture hospital, Yunnan province, the P. R. China at least one year.

Autonomous Hospital refers to tertiary hospitals which belongs to autonomous prefectures, the western area of Yunnan province, the P. R. China, including Dali Bai Autonomous Prefecture People's Hospital, Chuxiong Yi Autonomous Prefecture People's Hospital and Dehong Dai and Jingpo Autonomous Prefecture People's Hospital. They have more than 500 beds and provide high level special medical services, education, research and health promotion.