

## CHAPTER 4

### Findings and Discussion

The purposes of this study were to explore the work engagement and proactive work behavior of head nurses and to examine the relationship between work engagement and proactive work behavior among the head nurses in university affiliated hospitals, the People's Republic of China. This chapter consists of the research findings followed by the related discussion focusing on the research objectives. The findings are presented in four parts, as follows:

Part I: Demographic characteristics of subjects.

Part II: Work engagement as perceived by subjects.

Part III: Proactive work behavior as perceived by subjects.

Part IV: The relationship between work engagement and proactive work behavior of subjects.

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## Findings

### Part I: Demographic Characteristics of Subjects

The demographic characteristics of subjects are presented in Table 4-1.

Table 4-1

*Frequency, Percentage, Mean, Standard Deviation and Range of Demographic Characteristics of Subjects Categorized by Gender, Age, Marital Status, Number of Children, Level of Education, Number of Year as Nurse, Number of Year as Head Nurse, Number of Year Working in the Unit, Salary, Department, Training and Member of Committee (n=225)*

Demographic Characteristics	Frequency (n)	Percentage (%)
<b>Gender</b>		
Female	217	96.44
Male	8	3.56
<b>Age (year) (<math>\bar{X}</math>=41.00, SD=6.82, Range=27-55)</b>		
≤40	122	54.22
41-50	78	34.67
51-60	25	11.11
<b>Marital status</b>		
Single	11	4.89
Married	209	92.89
Divorced	5	2.22
<b>Number of children (<math>\bar{X}</math>=0.98, SD=0.41, Range=0-2)</b>		
0	21	9.33
1	187	83.11
2	17	7.56

Table 4-1 (continued)

Demographic Characteristics	Frequency (n)	Percentage (%)
Level of education		
Diploma degree	2	0.89
Associate degree	28	12.44
Baccalaureate degree	188	83.56
Master degree	7	3.11
Number of year as nurse (year) ( $\bar{X}$ =20.12, SD=8.20, Range=4-36)		
≤5	3	1.33
6-10	32	14.22
11-15	42	18.67
16-20	52	23.11
≥21	96	42.67
Number of year as head nurse (year) ( $\bar{X}$ =7.51, SD=6.01, Range=1-28)		
≤5	112	49.78
6-10	56	24.89
11-15	30	13.33
16-20	21	9.33
≥21	6	2.67
Number of year working in the unit (year) ( $\bar{X}$ =13.60, SD=8.74, Range=1-36)		
≤5	45	20.00
6-10	62	27.55
11-15	33	14.67
16-20	40	17.78
≥21	45	20.00
Salary		
≤3000 RMB	7	3.11
3001-5000 RMB	52	23.11
5001-7000 RMB	111	49.33
≥7001 RMB	55	24.45

Table 4-1 (continued)

Demographic Characteristics	Frequency (n)	Percentage (%)
<b>Department</b>		
Outpatient department	12	5.33
Surgical department	78	34.67
Medical department	64	28.44
Intensive care unit	18	8.00
Operation room	14	6.22
Pediatric department	11	4.89
Emergency department	15	6.67
Gynecology and obstetrics department	13	5.78
<b>Training (such as innovation, taking charge, voice, or preventing problem)</b>		
Yes	67	29.78
No	158	70.22
<b>Member of committee (such as nursing care quality and safety committee, infection control committee, and Yunnan province anticancer committee)</b>		
Yes	63	28.00
No	162	72.00

Table 4-1 shows that 96.44% of subjects were female with the average age of 41.00 years (SD=6.82), and 92.89% of subjects were married. Subjects had the average number of children of 0.98 (SD=0.41). The majority of subjects had a baccalaureate degree (83.56%). The average years of subjects working as nurse were 20.12 years (SD=8.20). The average years of subjects being appointed as head nurses were 7.51 years (SD=6.01). The average years of subjects working in the unit were 13.60 years (SD=8.74). 49.33% of subjects received 5001 RMB -7000 RMB per month. 34.67% of subjects came from surgical department, while 28.44% of subjects came from medical department. Only 29.78% of subjects took part in training about innovation, taking charge, voice or preventing problems. In addition, only 28% of subjects were the members of committees such as nursing care quality and safety committee, infection control committee, and Yunnan province anticancer committee.

## Part II: Work Engagement as Perceived by Subjects

The level of work engagement and its sub-dimensions as perceived by subjects are shown in Table 4-2.

Table 4-2

*Mean, Standard Deviation and Level of Work Engagement as Perceived by Subjects (n=225)*

Work Engagement	Mean	SD	Level
Overall	3.63	0.94	Moderate
Vigor	3.57	0.92	Moderate
Dedication	3.74	1.09	Moderate
Absorption	3.60	1.01	Moderate

As illustrated in Table 4-2, the results showed that subjects perceived overall work engagement at a moderate level. Three sub-dimensions, namely vigor, dedication, and absorption were also perceived by subjects at moderate levels.

### Part III: Proactive Work Behavior as Perceived by Subjects

The level of proactive work behavior and its sub-dimensions as perceived by subjects are shown in Table 4-3.

Table 4-3

*Mean, Standard Deviation and Level of Proactive Work Behavior as Perceived by Subjects (n=225)*

Proactive work behavior	Mean	SD	Level
Overall	43.09	7.69	Moderate
Problem prevention	10.10	2.31	Moderate
Individual innovation	9.10	2.34	Moderate
Voice	13.45	2.68	Moderate
Taking charge	10.45	2.42	Moderate

As shown in Table 4-3, the overall mean score of proactive work behavior was perceived by subjects at a moderate level. Subjects also perceived four sub-dimensions at moderate levels, namely, problem prevention, individual innovation, voice and taking charge.

#### Part IV: The Relationship Between Work Engagement and Proactive Work Behavior of Subjects

The relationship between work engagement and proactive work behavior among subjects is shown in Table 4-4.

Table 4-4

*Pearson Product-Moment Coefficient between Work Engagement and Proactive Work Behavior (n=225)*

Work engagement	Proactive work behavior
	0.56*

\*  $p < 0.01$

As shown in Table 4-4, the results of this study showed that there was significant strong positive relationship between work engagement and proactive work behavior among subjects.

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## Discussion

The discussion is presented in three main parts in accordance with the objectives of this study.

### Part I: Work Engagement Among Head Nurses

The results of this study indicated that the level of overall work engagement was perceived by head nurses at a moderate level ( $\bar{X}=3.63$ ,  $SD=0.94$ ). Three sub-dimensions, namely, vigor, dedication and absorption were perceived by head nurses at moderate levels ( $\bar{X}=3.57$ ,  $SD=0.92$ ;  $\bar{X}=3.74$ ,  $SD=1.09$ ;  $\bar{X}=3.60$ ,  $SD=1.01$ , respectively). The detailed results of each sub-dimension, namely, vigor, dedication and absorption as well as overall score of work engagement are discussed as follows:

**Vigor.** Vigor is head nurses' energy and mental resilience while working, the willingness to involve efforts in one's work, and persist even in the presence of difficulties. This study found that vigor was perceived by head nurses at a moderate level ( $\bar{X}=3.57$ ,  $SD=0.92$ ). The result of this study was consistent with that of the previous study by Gabr and El-Shaer (2013), and they found that head nurses in Mansoura perceived vigor at a moderate level ( $\bar{X}=23.38$ ,  $SD=3.34$ ).

Possible explanation of the finding would be that head nurses make a lot of efforts into achieving hospital goals. According to the hospital management, the goals of nursing quality were set every year such as zero incidents of bedsore, 100% of the intact rate of emergency materials, 100% of the instrument disinfection and isolation rate, and less than 0.5% of nursing error accident rate (Chinese Hospital Association, 2016). As first-line managers, the head nurses must ensure that the goals were achieved. Therefore, head nurses have to put energy in management to reach the goals such as managing basic and intensive nursing care, aseptic operation, disinfection and isolation, and the quality of nursing care (Medical Education Network, 2014). These ideas were supported by the result of this study where 57.78% of the head nurses slightly to strongly agreed that they felt strong and vigorous at their work (Appendix K1). Head nurses also take the role of finding solutions in case of any problem, because of head nurses have the responsibility to identify and timely solve the problems, and assure quality and efficiency of nursing



care in the unit. Therefore, they felt that they put efforts in their works even in case of any problem or difficulty. This idea was supported by the result of this study where 67.56% of the head nurses slightly to strongly agreed that at their work, they always persevered, even when things did not go well (Appendix K1).

However, the diversity of nursing staffs' thinking brings new requirements for nursing management. Staff nurses' ideas change from a single obedience to the diversity of thinking. Moreover, staff nurses increase self-fulfilling expectations, and require more independence and autonomy (Medical Education Network, 2013). This situation may deteriorate the power of head nurses in their works and was supported by the result of the study where only 42.67% of the head nurses slightly to strongly agreed that at their work, they felt bursting with energy (Appendix K1).

Additionally, head nurses may meet obstacles from their works. For example, if head nurses want to get medical equipment, they need to go through complex procedures such as approvals from the department director, vice dean in charge, dean, and the equipment department director. After obtaining all approvals, head nurses have to wait to buy. Similarly, if head nurses want to get appropriate number of staff, they have to obtain consent and signature from the department director, and then head nurses send application materials to the human resource department which will appraise whether the departments indeed need it. Afterwards, head nurses have no any choice but to wait for the staff needed (University Affiliated Hospitals, 2013). Obstacles of staffing and materials may decrease willingness of head nurses to involve efforts in their work as Su et al. (2017) stated that shortage of staffing and materials impacts on head nurses involved in work. Additionally, head nurses' workload, patients' needs and nurse shortage increased head nurses' exhaustion (Su et al., 2017). Head nurses' sense of long-term exhaustion may directly affect their energy while working. These ideas were supported by the result of this study where only 37.78% of the head nurses slightly to strongly agreed that when they got up in the morning, they liked going to work (Appendix K1). Therefore, the head nurses who worked in university affiliated hospitals, Yunnan province, the People's Republic of China perceived vigor at a moderate level.

**Dedication.** Dedication is head nurses' strongly involving in their work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. This

study found that dedication was perceived by head nurses at a moderate level ( $\bar{X}=3.74, SD=1.09$ ). This result was consistent with that of the previous study by Xiao et al. (2015) who found that nurses in tertiary hospitals, Hubei, the People's Republic of China perceived dedication at a moderate level ( $\bar{X}=16.35, SD=6.30$ ). However, this result was inconsistent with that of the study by Salanova, Lorente, Chambel, and Martinez (2011) who found that nurses and supervisors in a large Portuguese hospital perceived dedication at a slightly high level ( $\bar{X}=4.81, SD=0.96$ ).

Possible explanation of the finding would be that the status of work induces head nurses to feel proud. In the People's Republic of China, to appoint any head nurse, hospital managers focus on the experience, competency of improving work approaches and innovation, education level, and psychological quality. At the same time, the nurses who are adept at innovation or have been innovative at work will be preferred to be head nurses. Head nurses have autonomy in their work, get more opportunities for developing themselves, and have post allowance (University Affiliated Hospitals, 2015) that may make head nurses feel proud for their posts and competency. Additionally, Nursing not only focused on the patients' disease but also patients' physical and mental health. The scope of nursing work also not only focused on patients' clinical nursing but also patients' rehabilitation and health care (Su, Zhou, & Li, 2017). Moreover, in the People's Republic of China, nurses are regarded as "angels in white" who are pure, willing to sacrifice, warm and sincere, and full of love that inspired head nurses to better fulfill the sacred mission of Nightingale (Sina, 2008). So head nurses may feel significant and proud for their post and the outcomes of their work. These ideas were supported by 52.89% of the head nurses slightly to strongly felt proud of the work that they did (Appendix K1).

Moreover, the performance appraisal system of high quality nursing enhanced the responsibility and sense of crisis of head nurses, and inspired head nurses to comprehensively improve their overall quality and fully mobilize the enthusiasm of their work (Wang et al., 2012). Additionally, head nurses were expected to be full of enthusiasm for nursing career because their actions can virtually positively affect staff nurses and pass positive energy (Huang & Feng, 2016). This idea was supported by that 67.11% of the head nurses slightly to strongly felt enthusiastic about their jobs (Appendix K1).

Furthermore, head nurses' jobs are very challenging. Because head nurses have to face management of complex clinical nursing practice, shorter hospitalizations of acutely ill patients, pressures from frequent assessment, advances in technology, increasing health cost and transformation of health care. Besides, head nurses are on call for 24 hours a day, and seven days a week. They have to contact with all departments of the hospital, and to be the bridge and mediators between staff nurses and upper managers (Chase, 2010). Thereby head nurses are challenged to endlessly study to improve their character, knowledge and management skills as well as psychological quality (Li, 2002). These ideas were supported by the result of the study where 64.44% of the head nurses slightly to strongly agreed that their jobs were challenging (Appendix K1).

However, head nurses work under the policies, regulations and rules made by hospital managers that may not present their own strength, as Fang (2007) said that head nurses cannot fully play their own strengths and sometimes feel that their jobs are not challenging. Additionally, head nurses have to complete a lot of irrelevant documents, help the department director to make out bills that did not reflect their management and professional standards (Hushi Network, 2016). These may be barriers for development of head nurses. These ideas were support by the result of this study where only 43.56% of the head nurses slightly to strongly agreed that their jobs inspired them (Appendix K1). In particular, head nurses were lifelong tenure and directly pointed by hospital managers that resulted in low enthusiasm of head nurses while working (Li, Yang, Zhao, & Jiang, 2014). The significance, inspiration, proudness, enthusiasm and challenging jobs, but limited power, irrelevant work and imperfect system resulted in moderate level of dedication of the head nurses who worked in university affiliated hospitals, Yunnan province, the People's Republic of China.

**Absorption.** Absorption is head nurses' concentrating and happily engrossing in their work and difficultly detaching them from work whereby time passing. This study found that absorption was perceived by head nurses at a moderate level ( $\bar{X}=3.60$ ,  $SD=1.01$ ). The result of this study was consistent with that of the previous study by Wang and Liu (2015) who found that clinical nurses in two tertiary A hospitals, Tianjing, the People's Republic of China perceived absorption at a moderate level ( $\bar{X}=4.31$ ,  $SD=1.27$ ).

Possible explanation of the finding would be that head nurses' jobs are busy. During daily work, head nurses have many various working tasks to do. They are obliged to do management jobs such as developing nursing plan, managing unit environment, instrument and drugs, organizing ward nursing rounds and nursing consultation (Medical Education Network, 2015). Also, head nurses' daily works include managing all kinds of resources in departments, and training staff nurses' skills regarding holistic nursing implementing, sterilizing, drug administrating, primary care, and nursing documents (Yu, 2011). Additionally, head nurses have to act as mediators between executives and staff nurses, between physicians and staff nurses, and between staff nurses and patients (Wang & Liu, 2015). Moreover, head nurses sometimes afford clinical nursing care, and they are responsible for rescuing critically ill patients and participating in practice of the complex nursing technology (Hua et al., 2014). These all make head nurses have to concentrate on their jobs so that they forget the time and cannot detach from their jobs. These ideas were supported by the results of the study where 87.56% of the head nurses slightly to strongly agreed that time flew when they were working and 60% of the head nurses slightly to strongly agreed that when they were working, they forgot everything else around them (Appendix K1). However, so many kinds of jobs increase head nurses' workload which may impact on head nurses' happiness during working, as Martina (2015) stated that workload increased stress and decreased job satisfaction. This idea was supported by the result of the study where only 25.78% of the head nurses slightly to strongly agreed that they felt happy when they were working intensely (Appendix K1). Therefore, head nurses perceived absorption at a moderate level.

According to all sub-dimensions of work engagement perceived by head nurses at moderate levels, the overall score of work engagement was at a moderate level ( $\bar{X}=3.63, SD=0.94$ ). The result was consistent with that of the previous study by Feng et al. (2012) who found that nurses in Affiliated Hospital of Kunming Medical University, Yunnan province, the People's Republic of China perceived work engagement at a moderate level ( $\bar{X}=3.64, SD=1.07$ ). However, this result was inconsistent with that of the previous study by Warshawsky et al. (2012) who found that nurse managers in North Carolina perceived work engagement at a high level ( $\bar{X}=6.01, SD=0.83$ ). This result also was inconsistent with that of the study by Yan (2013) who found that nurses in Tertiary

Hospitals, the People's Republic of China perceived work engagement at a slightly high level ( $\bar{X}=82.79$ ,  $SD=16.49$ ).

Possible explanation of a moderate level of the overall work engagement might be related to demographic characteristics of the head nurses. Old people would have high level of work engagement as Warshawsky et al. (2012) found that age was significant associated with work engagement ( $p=0.01$ ). In this study, only 45.78% of the head nurses were more than 40 years old (Table 4-1). Therefore, moderate level of work engagement was perceived. Additionally, experienced head nurses are more likely to find their work full of meanings and purposes as Mahboubi et al. (2015) found that there are significant relationship between work engagement and experience ( $p=0.04$ ). In this study, 50.22% of the head nurses were appointed as head nurses for more than 5 years (Table 4-1) which may affect perception of work engagement.

## **Part II: Proactive Work Behavior Among Head Nurses**

The results of this study showed that head nurses who worked in university affiliated hospitals in Yunnan province perceived overall proactive work behavior at a moderate level ( $\bar{X}=43.09$ ,  $SD=7.69$ ). Four sub-dimensions, namely, problem prevention, individual innovation, voice and taking charge were also perceived by head nurses at moderate levels ( $\bar{X}=10.10$ ,  $SD=2.31$ ;  $\bar{X}=9.10$ ,  $SD=2.34$ ;  $\bar{X}=13.45$ ,  $SD=2.68$ ;  $\bar{X}=10.45$ ,  $SD=2.42$ , respectively). The detailed results of overall and each sub-dimension of proactive work behavior perceived by head nurses in this study are discussed as follows:

**Problem prevention.** Problem prevention is related to head nurses' action of making efforts to explore essence of problems, and optimize procedures to prevent future re-occurrence of problem. In this study, problem prevention was perceived by head nurses at a moderate level ( $\bar{X}=10.10$ ,  $SD=2.31$ ).

Possible explanation of the finding would be due to duties of head nurses. Head nurses are responsible for supervising and inspecting quality of nursing work, identifying and timely solving problems, and maintaining nursing quality (Shu Tong Network, 2013). Therefore, when any incident occurred, head nurses found out cause of the incidents and applied PDCA (plan, do, check, action) cycle method to solve the incidents (Wang & Liu,

2015). For example, if the rate of infections was higher than previous one or standards, head nurses devoted themselves to search causes of infection. Then head nurses created a set of rules such as washing hands in time, enhancing the aseptic consciousness and operation of staff nurses according to causes as this study found that 56.89% of the head nurses slightly to strongly agreed that they tried to find the root cause of things that went wrong (Appendix L1). Moreover, at the unit level, head nurses were the chairman of nursing quality control committee, they organized nursing consultation and educated staff nurses to prevent any adverse event (Medical Education Network, 2015). Therefore, head nurses perceived that they made solutions for fixing problems. This idea was supported by the result of this study where 55.11% of the head nurses slightly to strongly agreed that they spent time planning how to prevent reoccurring problems (Appendix L1).

However, in this study, 49.78% of the head nurses have experiences less than or equal to 5 year (Table 4-1). Less experienced head nurses may take time to solve the problem instead of preventing problem as Hua et al. (2014) stated that experienced head nurses were more likely to prevent problems than less experienced head nurses. It is because junior head nurses' management practice experiences and knowledge are in the primitive accumulation stage, they need opportunities to improve management competency (Hua et al., 2014). In addition, Long, Xu, and Dang (2013) stated that head nurses' risk awareness was related to their knowledge level. Moreover, there were many incidents occurred in the People's Republic of China such as severe incidents in terms of hospital acquired infection (HAI) (Zhang, 2012), pressure ulcers (Tao et al., 2014), medical errors (Zhang, 2014) and adverse drug events (ADEs) (Cui et al., 2013; Hu et al., 2009). Much time of head nurses was taken to deal with so many incidents instead of preventing them. These ideas were supported by the result of this study where only 22.22% of the head nurses slightly to strongly agreed that they developed procedures and systems that are effective in the long term, even if they slowed things down to begin with (Appendix L1). The duties and the role of head nurses, with less experiences resulted in moderate level of problem prevention of head nurses.

**Individual innovation.** Individual innovation refers to the action of head nurses' being aware of new and emerging opportunities, generating new ideas and seeking those ideas into force. In this study, individual innovation was perceived by head nurses as at a

moderate level ( $\bar{X}=9.10$ ,  $SD=2.34$ ). This result was consistent with that of the previous study by Zhao (2014) who found that registered nurses in a tertiary hospital, the People's Republic of China perceived innovation behavior at a moderate level ( $\bar{X}=3.86$ ,  $SD=0.89$ ).

Possible explanation of the finding would be due to importance of innovation in nursing field. Head nurses' work was full of new challenges (Qu & Hu, 2012). In order to meet the challenges, head nurses are obliged to take some countermeasures such as innovation and exploration, because innovation is impetus of development of nursing, as Hospital Management Research Institute of Ministry of Health (2013) specified that head nurses should have the consciousness of management, and technical and service innovation. Head nurse also have responsibility to transform consumption of medical resources from extensive management to "high quality, low cost, efficient management", apply high-precision equipment and high-technology to nursing care field, and determine the direction, ways and means of nursing service (Hospital Management Research Institute of Ministry of health, 2013). These factors encourage head nurses to being aware of new emerged opportunities and generate ideas to improve services. Additionally, many hospitals tried to promote innovation such as the Second People's Hospital of Changzhou city (2017) carefully planned the first nursing innovation competition; Taiwan Chang Gung Memorial Hospital carried out innovation policy in the people-oriented principle (Zhu, 2012), and some hospitals actively carried out and supported management of new technologies and new projects in which the head nurses can actively participated in innovation of techniques and products by applying projects (Zhou & Liu, 2006). These hospitals supported and encouraged the head nurses to do more actions for innovation.

However, in university affiliated hospitals, Yunnan province, the People's Republic of China, lack of training of innovation knowledge may result in weak actions of innovation. This idea was supported by the result of this study where only 29.78% of the head nurses participated in the training (Table 4-1). Few study opportunities and advances, and less experience of head nurses also narrowed their room for searching techniques and product ideas (Deng & Wang, 2010). This idea was supported by the result of the study where only 26.22% of the head nurses slightly to strongly agreed that they searched out new techniques, technologies and/ or product ideas (Appendix L1). Moreover, in this study, the rate of male head nurses was 3.56% (Table 4-1) which may

affect creation of innovation, since Zhao (2014) found among registered nurses in a tertiary hospital that the level of innovation behavior of male nurses were higher than that of female nurses. The importance of innovation in nursing field and some policies related to innovation, with less innovation experiences and competency resulted in moderate level of individual innovation of head nurses.

**Voice.** Voice refers to the action of expressing constructive challenges to improve the standard procedures of their work surrounding. In this study, voice was perceived by head nurses at a moderate level ( $\bar{X}=13.45$ ,  $SD=2.68$ ). This result was consistent with that of the previous study by Marler (2008) who found that employees in Southeast United State perceived voice at a moderate level ( $\bar{X}=4.98$ ,  $SD=1.24$ ).

Possible explanation of finding would be related to responsibilities and roles of head nurses. Head nurses are responsible for nursing quality, patients' safety and satisfaction, and financial performance (Chase, 2010). Head nurses are responsible for organizing ward rounds and nursing consultation, checking the care of critical patients to give specific guidance, and participating in the preoperative discussion of major or new surgery, and the discussion of the difficult and death cases (Medical Education Network, 2015). In addition, head nurses have to personally participate in and guide the rescue of critically ill patients and the patients' nursing care of undergoing complex surgery and complex technical operations, and hold regular public forum to solicit opinions and improve clinical nursing work (Hua et al., 2014). These roles not only force the head nurses to express their opinions but also force them to encourage others to participate in that issue. These were supported by the result of this study where 53.78% of the head nurses slightly to strongly agreed that they spoke up and encouraged others in the workplace to get involved with issues that affected them (Appendix L1).

However, head nurses are lack of opportunities to express their ideas at the hospital level. Head nurses cannot express their opinion because they are not the member of the hospital committee that consists of nursing directors, department directors, and hospital managers (University Affiliated Hospitals, 2015). Moreover, at nursing department level, there are many committees such as nursing care quality and safety committee, wound and stoma committee, infection control committee, and Yunnan province anticancer



committee, but only 28.00% of the head nurses were members of these committees (Table 4.1), which may result in lack of power and opportunities for the head nurses to express their opinions. This idea was supported by only 8.44% of the head nurses strongly felt that they spoke up with new ideas or changed in procedures (Appendix L1). The responsibilities and roles of head nurses at unit level, with less opportunity to expression opinions at hospital level resulted in moderate level of voice of head nurses.

**Taking charge.** Taking charge reflects the action of head nurses attempting to improve the approach of work structures, practice and procedures. In this study, a moderate level of taking charge was perceived by head nurses ( $\bar{X}=10.45$ ,  $SD=2.42$ ). This result was consistent with that of the previous study by Marler (2008) who found that employees in Southeastern United States perceived taking charge at a moderate level ( $\bar{X}=3.56$ ,  $SD=0.76$ ).

Possible explanation of the finding would be related to leadership role of head nurses. Head nurses are the leaders in each field of specialist care. They are expected to improve work approach to promote continuous development of specialist care. Especially, head nurses hold a pivotal role of translating the administrative vision and mission into actual clinical practice at the bedside (Chase, 2010). Hence head nurses are expected to do many works as follows: guiding staff nurses to solve difficult problems; teaching staff nurses with new knowledge and skills, endlessly optimizing nursing procedures by identifying the risks of department, and strengthening the detail management by identifying individual and common problems of the department (Huang & Feng, 2016). Head nurses are also expected to adopt more effective methods to improve quality of care.

However, head nurses could not take charge in some works. Many quality assurances, nursing standards, and guidelines are the responsibility of nursing department and Ministry of Health (Medical Education Network, 2015) where head nurses could not be involved in and can only add some items to make the nursing standards or guidelines clearer and better understood (Chinese Hospital Association, 2011). In addition, some head nurses cannot fully understand and control nursing procedures since they had less experience and skills as Liu (2017) stated that many deficiencies such as the lack of

understanding of nursing procedures, the inaccuracy of nursing diagnosis, and untimely evaluation limited head nurses to carry out nursing procedures. These deficiencies may hinder head nurses from improving work processes. These ideas were supported by the result of this study where only 10.22% of the head nurses strongly agreed that they tried to bring about improved procedures in their workplace and only 12.89% of the head nurses strongly agreed that they tried to institute new more effective work methods in this study (Appendix L1). The leadership role of head nurses but limited power and limitations understanding nursing procedures resulted in the moderate level of taking charge of head nurses who worked in university affiliated hospitals.

All sub-dimensions of proactive work behavior were perceived by head nurses at moderate levels, so that overall score of proactive work behavior was at a moderate level ( $\bar{X}=43.09$ ,  $SD=7.69$ ). This result was inconsistent with that of the previous study by Warshawsky et al. (2102) who found that nurse managers in North Carolina perceived proactive work behavior at a slightly high level ( $\bar{X}=4.10$ ,  $SD=0.48$ ).

Another possible explanation of moderate level of proactive work behavior was due to demographic characteristics of head nurses. In this study, 52.45% of the head nurses working in their unit were more than 10 years while 50.22% of them were more than 5 years (Table 4-1). Warshawsky et al. (2012) found among nurse managers in North Carolina that experience and unit tenure were related to proactive work behavior. Furthermore, Warshawsky et al. (2012) found among nurse managers in North Carolina that age was related to proactive work behavior. In this study, only 45.78% of the head nurses were more than 40 years old (Table 4-1) which may affect the perception of proactive work behavior. Moreover, many head nurses who worked in university affiliated hospitals were lack of opportunities to improve the proactive work behavior namely, problem prevention, individual innovation, voice and taking charge. This idea was supported by the result of this study where 70.22% of the head nurses did not take part in training about proactive work behavior (Table 4-1). Therefore, head nurses who worked in university affiliated hospitals perceived proactive work behavior at a moderated level

### **Part III: The Relationship Between Work Engagement and Proactive Work Behavior Among Head Nurses**

The result of this study showed that there was a significant positive correlation between overall work engagement and proactive work behavior ( $r=0.56$ ,  $p<0.01$ ). The result was consistent with that of the previous studies by Warshawsky et al. (2012) who found among nurse managers in North Carolina that work engagement was positive related to proactive work behavior ( $r=0.43$ ,  $p<0.001$ ), and by Farrell (2012) who found among staff nurses in Ireland that work engagement was positive related to proactive work behavior ( $r=0.12$ ,  $p<0.05$ ). In addition, Salanova and Schaufeli (2008) found among workers in Spanish that two sub-dimensions, namely, vigor and dedication were positive related to proactive work behavior.

Since work engagement is state of that engaged employee feel boosting with energy, strongly involving, and fully concentrating while working (Schaufeli et al., 2002), work engagement boosts employees to take the initiative to work, and manifest good attitudes of the work (Zhang, 2014), drive their energy into work, and positively complete the jobs (Kim et al., 2009). Therefore, work engagement can be considered as engine to promote proactive behavior while working (Salanova & Schaufeli, 2008). Bargagliotti (2012) specified that work engagement is a motivational state that enables head nurses to persevere even they encountered obstacles while working. In other words, work engagement played an interior motivation role to foster head nurses to solve problems and achieve hospital goals. Moreover, head nurses who grasp high level of engagement in their work are more willing to have greater attachment to their hospitals, and show initiative and proactive in their daily works. Engaged head nurses are willing to take responsibility for their own development of achievement behaviors at work, perform high level management skills and profession, and encourage and co-ordinate staff nurses to deliver high quality nursing services (Gabr & EI-Shaer, 2013).

In this study, engaged head nurses felt full of energy, and actively took charge in their duties and roles such as participating in morning shift meeting, checking the care of critical patients, educating staff nurses, managing conflict, enhancing communication between physicians and nurses, nurses and patients, preventing the adverse event occurrence, managing ward environment, and translating mission and vision of hospitals

to clinical practice (Chase, 2010). With full of challenges, inspiration, significance and enthusiasm for nursing work, engaged head nurses are willing to express their opinions and ideas for improving work approach and environment such as giving nursing consultation and specific guides, participating discussion of surgery, difficult and death case, actively generating new ideas, developing new technology, organizing the nursing research plan, and providing an atmosphere of unity and upward learning (Huang & Feng, 2015; Zhou & Liu, 2006). As Oliver (2012) state that engaged head nurses usually felt their work full of challenges and inspiration, they are more willing to express constructive ideas to improve their work procedures, generate new ideas and seek those ideas into force.

In addition, engaged head nurses can fully concentrate, happily engross in their work, and difficultly detach from their work. So engaged head nurses will devote to improve their work approach and emerge opportunities (Zhu, 2012) through creating work guides, simplifying complex procedures, highlighting the focus by using cycle processes of selecting problem to be improved, analyzing current working methods (Liu, 2017), reviewing current working methods, developing improvement programs (Zhou & Liu, 2006), implementing improvement programs, and confirming and tracking the implementation effects (Bai Du, 2014). Besides, engaged head nurses preferred to participate in management of new technologies and projects (Zhu, 2012).

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่  
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