CHAPTER 4

Findings and Discussion

This chapter includes the research findings and the discussion of this study. The purposes of this study were to explore emotional intelligence and work-related stress, and to investigate the relationship between emotional intelligence and work-related stress of nurses in the People's Hospitals of Dali, P. R. China.

The findings are presented in four parts with tables and description as follows: 1) demographic characteristics of the subjects; 2) the level of emotional intelligence of the subjects; 3) the level of work-related stress of the subjects; and 4) the relationship between emotional intelligence and work-related stress of the subjects. Discussion is conducted based on research objectives and the results of the study.

Findings

Part I: Demographic Characteristics of the Subjects

The subjects in this study were 273 nurses who worked in Two People's hospitals of Dali, the People's Republic of China. The demographic data of the subjects are shown in Table 1.

Table 1

Frequency, Percentage, Mean, Range and Standard Deviation of Demographic Characteristics of the Subjects (n=273)

Characteristics	Frequency (n)	Percentage (%)
Gender		
Female	273	100.00
Age (years) ($\bar{x}$ = 30.37, SD = 8.17, Range = 21-55 years)		
21-30	182	66.67
31-40	49	17.95
41-50	35	12.82
>51	7	2.56
Marital status		
Single	92	33.70
Married	174	63.74
Divorced	7	2.56
Educational level		
Diploma	60	21.98
Associate degree	149	54.58
Bachelor degree	64	23.44
Length of nursing work ($\bar{x}$ = 9.84, SD = 8.18, Range = 2-35 years)		
2-10	196	71.79
11-20	37	13.56
21-30	33	12.09
>31	7	2.56

Table 1 (continued)

Characteristics	Frequency (n)	Percentage (%)
Working department		
Surgical	66	24.18
Medical	76	27.84
Pediatric	26	9.52
Obstetrics and Gynecology	21	7.69
Emergency Room	22	8.07
Operation Room	24	8.79
Out Patient Department	23	8.42
Intensive Care Unit	15	5.49
Working hospital		
The 1st People's Hospital	187	68.50
The 2nd People's Hospital	86	31.50
Training program about emotional intelligence		
Never been trained	236	86.45
One time	25	9.16
More than one time	12	4.39

Table 1 shows that all the subjects were female with the average age of 30.37 years old (SD = 8.17), and more than half of the subjects were between 21-30 years old. The majority of subjects were married (63.74%) and 54.58% of subjects held an associate degree, with 23.44% holding a bachelor degree. Over seventy percent of the sample had between 2-10 years of experience. The largest groups of the nurses worked at the medical and surgical departments, and nearly two-thirds worked at the First People's Hospital. Regarding the training program about emotional intelligence, 9.16% of subjects had been trained once, while 86.45% of subjects never been trained.

Part II: Emotional Intelligence of Subjects

This part describes the range, mean score, and standard deviation, as well as level of emotional intelligence of the subjects. The results are shown in Table 2.

Table 2

Mean, Standard Deviation and the Level of Emotional Intelligence in Overall and Dimensions of the Subjects (n=273)

Emotional Intelligence (Range = 1-7)	$\bar{x}$	SD	Level
Self-emotional appraisal	5.10	1.60	High
Others' emotional appraisal	4.36	1.53	Moderate
Regulation of emotion in the self	4.27	1.59	Moderate
Use of emotion to facilitate performance	4.46	1.56	Moderate
Overall	4.55	1.44	Moderate

The mean score and standard deviations of total and each dimension of emotional intelligence are shown in Table 2. The range of possible scores for emotional intelligence is from 1 to 7. The overall emotional intelligence of subjects was at a moderate level. The nurses reported the highest score in the dimension of self-emotion appraisal, while the dimensions of others' emotion appraisal, regulation of emotion and use of emotion were at a moderate level.

Part III: Work-related Stress of Subjects

This part focuses on presenting the range, mean score, standard deviation and level of work-related stress (overall and for each dimension) of the subjects. The results are shown in Table 3.

Table 3

Mean, Standard Deviation, and the Level of Work-related Stress in Overall and Dimensions of the Subjects (n = 273)

Work-related Stress (Range = 1-5)	$\bar{x}$	SD	Level
Demands	3.00	0.94	Moderate
Control	3.29	0.97	Moderate
Managerial support	3.46	0.87	Moderate
Peer support	3.91	0.83	Low
Relationships	3.67	1.08	Moderate
Role	4.30	0.82	Low
Change	3.64	0.89	Moderate
Overall	3.60	0.45	Moderate

The range of work-related stress was from 1 to 5, with low scores representing high stress. As shown in Table 3, the overall mean score of work-related stress of nurses was at a moderate level. Regarding each dimension, five of the seven dimensions of work-related stress, namely, demands, control, managerial support, relationships and change were at a moderate level. The dimensions of peer support and role were at a low level.

Part IV: Relationship Between Emotional Intelligence and Work-related Stress of Subjects

The relationship between emotional intelligence and work-related stress of subjects is shown in Table 4.

Table 4

Relationship Between Emotional Intelligence and Work-related Stress of the Subjects (n = 273)

The relationship	Work-related stress
Emotional intelligence	-0.13**

**p< 0.01

The overall emotional intelligence and overall work-related stress of nurses were weakly negative correlated.

Discussion

Discussion of the results is presented in the following three parts according to the research objectives: 1) to explore the emotional intelligence of nurses in the People's Hospitals of Dali, the People's Republic of China; 2) to explore the work-related stress of nurses in the People's Hospitals of Dali, the People's Republic of China; 3) to investigate the relationship between emotional intelligence and work-related stress of nurses in the People's Hospitals of Dali, the People's Republic of China.

Part I: Emotional Intelligence of Subjects

Emotional intelligence is the ability to monitor one's own and other's feelings and emotions, to discriminate among them, and to use this information to guide one's thinking and action. In Table 2, the results of this study indicated that the level of overall emotional intelligence of nurses was at a moderate level ($\overline{x}$ = 4.55, SD = 1.44).

The finding could be explained in regard to the demographic characteristics of the subjects. Demographic factors such as gender can affect emotional intelligence. Among the subjects, all of the nurses were female (Table 1). Previous researchers commonly believed that women are more competent than men in the emotional sphere (Downey et al., 2005). In addition, Mayer et al. (2000) showed that women generally have higher scores in emotional intelligence than men (Extremera et al., 2006). Moreover, in terms of age, Nikolaou and Tsaousis (2002) stated that older individuals score higher on emotional intelligence than younger ones. Research showed that people older than 40 years have highest emotional intelligence (Hu et al., 2010). However, in this research, the results showed that 66.67% of the subjects were 21 to 30 years while the average age was 30.37 years (Table 1). In addition, educational level can affect people's emotional intelligence. Yuan (2007) stated people with high educational level may have more chance to contact courses which can improve the self-awareness such sociology, psychology, interpersonal and communication, and aesthetics may have been increased (Yuan, 2007), and those courses can enhance confidence and improve the emotional intelligence. However, in this research, 54.58% of subjects held associate degree, and just 23.44% of subjects held bachelor degree (Table 1). Furthermore, as high as 86.45% of the nurses have never attended a training program for improving emotional intelligence (Table 1). As mentioned

previously, emotional intelligence can be learned and improved, but nurses lack chances to participate in training programs. Therefore, this may all be reasons why nurses have a moderate level of emotional intelligence. The results are similar to the results of Hu et al. (2013) in Shanghai, China which found that nurses' emotional intelligence was at a moderate level ($\bar{x}$ = 4.12). However, the level of this result lower than some previous studies of Görgens-Ekermans and Brand (2012) in South Africa and Karimi et al., (2014) in Australia, as well as Tao and Song (2012) in Hubei, China.

Regarding each subscale, subjects perceived they had a high level of self-emotional appraisal ($\bar{x}$ = 5.10, SD = 1.60). However, others' emotion appraisal ($\bar{x}$ = 4.36, SD = 1.53), regulation of emotion ($\bar{x}$ = 4.27, SD = 1.59), as well as use of emotion ($\bar{x}$ = 4.46, SD = 1.56) dimensions were at a moderate level.

The dimension of self-emotional appraisal was at a high level ($\bar{x}$ = 5.10, SD = 1.60). This means that the subjects understand their deep emotions and are able to express these emotions naturally. As, in this study, most of subjects stated that they had good understanding of their own emotions and they always know what they are feeling (Appendix O). The reason behind this result may be because the People's Hospitals of Dali have orientation process for new nurses (1st PHDL, 2015; 2nd PHDL, 2015). After orientation, the nurses will know how to go about getting their job done and they are clear what their duties and responsibilities. So the nurses in the People's Hospitals of Dali can understand their deep emotions and be able to express these emotions naturally. The result is similar with that of Tao and Song (2012) in Hubei, China which found that nurses have a high level of self-emotion appraisal ($\bar{x}$ = 5.82, SD = 0.65). The research of Hu et al. (2013) reported an inconsistent result in Shanghai which showed that nurses had a moderate level of self-emotion appraisal ($\bar{x}$ = 4.00, SD = 0.90).

Moreover, the dimension of others' emotion appraisal was at a moderate level ($\bar{x}$ = 4.36, SD = 1.53). This result means that the subjects understand the emotions of those people around them. The subjects who are high in this ability will be much more sensitive to the feelings and emotions of others as well as being able to understand them. In this research, the subjects also perceived that they are not good observers of others' emotion, they cannot feel the emotions of others sensitively, and sometimes they do not understand well the emotions of people around them (Appendix O). McQueen (2004) stated that the

nursing profession is an emotional labor. For emotional labor, workers are expected to display certain emotions as part of their job. For nurses, they are expected to provide emotional support to the patients and their families. However, high workload and the nursing shortage limited nurses ability to detect and appraise the emotion of others. Also, high workload limited nurses ability to exhibit empathy to patients. For example, when patients feel very worried and sad, the nurses want to listen to patients' inner voice and give them some comfort, but the heavy workload makes the nurses feel a dilemma. Moreover, another possible reason may be due to nurses having to face patients with different languages and religions. Dali is home to a variety of minorities; there are 24 minorities living in Dali with different languages and they believe in different religions. This makes nurses feel that they are not able to understand the needs of every patient. Therefore, these may be the reasons why nurses have moderate level of others' emotion appraisal. The result is similar with that of Tao and Song (2012) in Hubei, China which found that nurses have a moderate level of others' emotion appraisal ($\overline{x}$ = 4.37, SD = 0.86). The research of Hu et al. (2013) reported a consistent result in Shanghai, China which showed that nurses have a moderate level of others' emotion appraisal ($\overline{x}$ = 4.40, SD = 0.90).

As the results showed, the dimension of regulation of emotion was at a moderate level ($\overline{x}$ = 4.27, SD = 1.59). This result means that the subjects regulate their emotions, which will enable a more rapid recovery from psychological distress. The subjects who have in this ability would be able to return quickly to normal psychological states and lose their temper less. In this research, subjects perceived they had problems to control their temper and calm down quickly from being angry (Appendix O). The reason may be because of the nursing shortage, and the resulting high workload which leads to stress and frustration. In the First People's Hospital of Dali, the workload is very high. The ratio of nurses to patient beds is 1:1.91, the occupied bed rate was 118.02% (1st PHDL, 2015). Luo (2011) pointed out nurses who worked in the People's Hospitals of Yunnan have a high level of burnout. The high level of burnout results in nurses easily losing their tempers and being indifferent to others' individual needs (Yu, 2007). Therefore, these may be the reasons why nurses have a moderate level of regulation of their emotions. The result is similar to that of Tao and Song (2012) in Hubei, China, which found that nurses have a moderate level of regulation of emotion ($\overline{x}$ = 4.99, SD = 0.85). Hu et al. (2013)

reported a consistent result in Shanghai, China which showed that nurses have a moderate level of regulation of emotion ($\overline{x}$ = 3.90, SD = 1.00).

Furthermore, the dimension of use of emotion was at a moderate level ($\overline{x}$ = 4.46, SD = 1.56). It means that the subjects use their emotions by guiding them to establish activities and personal performance. The subjects who are high in this ability would be able to encourage themselves to do better and keep emotions in a positive and productive way fairly continuously. In this study, the subjects previewed themselves as not good at setting goals, not able to use emotion to make sure their work was done properly, and they also did not perceive themselves as competent persons (Appendix O). They thought that they were not self-motivated, and they had low self-confidence. Qiao and Wang (2010) reported that nurses are often regarded as assistants of physicians and have less autonomy and control for patients' health and disease, and although nurses have their own opinion, they must follow the orders from the physicians. Nurses have a serious feeling of pressure and frustration when the ideas or decisions of nurses are inconsistent with the physicians. This may explain why the subjects have a moderate level of using emotion. The result is similar to the result of Hu et al. (2013) in Shanghai, China, which found that nurses have a moderate level of use of emotion ($\overline{x}$ = 4.20, SD = 1.00). The study of Tao and Song (2012) in Hubei, China reported an inconsistent result which showed that nurses had a high level of use of emotion ($\overline{x}$ = 5.41, SD = 0.78).

Part II: Work-related Stress of Subjects

Work-related stress refers to a harmful emotional and somatic response to stimuli which are in his/her job when the perceived pressure exceeds the individual's perceived ability to cope. In Table 3, the results of this study showed that the level of overall work-related stress of nurses was at a moderate level ($\overline{x}$ = 3.60, SD = 0.45). The results are similar to those of Gibb et al. (2010) in UK, Esmaeili (2015) in Iran, and Lanfranchi et al. (2014) in Northern Italy.

The findings could be explained in regards to the demographic characteristics of the subjects. Demographic factors such as marital status effect work-related stress (Esmaeili, 2015). Marinaccio et al. (2013) stated that married workers of both sexes perceived higher work demands which was likely to reflect the higher burden of family

responsibilities on married workers compared to unmarried ones. The weight of family responsibilities might lead to a potential work-home conflict that could reduce the individual's ability to cope with increasing demands at work. Among the subjects, 63.74% of them were married (Table 1). So the nurses who were married may have suffered from more work-related stress. Moreover, in terms of gender, Rauschenbanch and Hertel (2011) found that gender influenced stressors. Women suffered more stress than men. Some researchers stated that females tend to experience higher level of stress than males (Abdulla et al., 2011). In this research, all of the subjects were female (Table 1), so they suffered higher levels of stress. In addition, educational level can affect work-related stress. Niezborala et al. (2003) stated that low educational levels were associated with higher job stress risk in a large sample of French workers. In this study, 54.58% of subjects held an associate degree, and just 23.44% of subjects held a bachelor degree (Table 1). The results showed that nurses had low continuing education, so that they experienced more stress in the complex working environment. Therefore, all the above may be reasons why nurses have a moderate level of emotional intelligence.

Regarding each subscale, five dimensions of work-related stress, namely, demands, control, managerial support, relationships and change were at a moderate level. The mean scores of these dimensions were: demands ($\overline{x}$ = 3.00, SD = 0.94), control ($\overline{x}$ = 3.29, SD = 0.97), managerial support ($\overline{x}$ = 3.46, SD = 0.87), relationships ($\overline{x}$ = 3.67, SD = 1.08) and change ($\overline{x}$ = 3.64, SD = 0.89). The dimensions of peer support and role were at a low level, with the average score of peer support at 3.91 (SD = 0.83) and role at 4.30 (SD = 0.82).

The dimensions of demands and control were at a moderate level, demands ($\overline{x}$= 3.00, SD = 0.94), control ($\overline{x}$ = 3.29, SD = 0.97). In this study, subjects perceived that they had to work very intensively and they were unable to take sufficient breaks (Appendix P). The possible explanation may be because in recent years, policy reform made it necessary for nurses in the hospital to be faced with more intensive patient care, more demands from patients and families, more interactions between patients and physicians, and additional office work. Feng (2000) reported that according to healthcare reform in China, nurses were faced with the challenge of providing nursing services including health education, psychology consultations, more paper work, and more family care education for chronic patients. These additional requirements increased the workload of

nurses. Qi (2007) stated that nursing staffs' heavy workload increased the level of job stress in public hospitals in China. Nurses must base their lives according to their work schedule. Many nurses complained that they are not able to deal with high job demands and they lost control over their pace of work. Qiao and Wang (2010) reported that nurses are often regarded as assistants of physicians and have less autonomy and control for patient's health and disease, although nurses have their own opinion, they must follow the orders from the physicians. Therefore, in this study, the demands and control of work-related stress were at a moderate level.

The dimension of managerial support was at a moderate level ($\overline{x}$ = 3.46, SD = 0.87). In this study, subjects perceived that they lacked encouragement and supportive feedback on the work they do (Appendix P). The possible reason was that the present situation of nurses is still one of low salary, difficulty for promotion, and a lack of opportunities for continuing education and training, which causes nurses to lose their psychological balance, lack a sense of achievement, and brings them a sense of negativity (Ma et al., 2013). Xiao (2008) reported that only 1.46% of nurses get support from head nurses. Nurses are habituated to deal with problems on their own and they seldom ask for help from head nurses. Most nurses have opportunities to receive in-service education which is provided by the nursing department each year and obtain nursing information from nursing department each month. However, due to the abundance of clinic work, nurses had little time to attend the class. Also, not all of nurses have the opportunity to receive training, education, attending nursing workshops or conferences outside the hospital. In this study, 23.44% (Table 1) of the nurses had bachelor degrees. The hospital budget for nursing development was very limited compared to other health professionals (Hospital Policy, 2016). Therefore, in this study, the managerial support of work-related stress was at a moderate level.

Furthermore, the dimension of peer support was at a low level ($\overline{x}$ = 3.91, SD = 0.83). In this study, subjects perceived that they received respect at work from their colleagues and they got help and support they need from colleagues (Appendix P). A possible explanation is that according to the hospitals nursing departments' orientation plan (1st PHDL, 2015; 2nd PHDL, 2015), before the new nurses begin working independently, the new staff nurses should be under supervision of assistant professional nurses for three

months. Moreover, nurses working in one shift are divided into two teams in daily work. As there are assistant professional nurses and staff nurses working together in each team, the assistant professional nurses can guide the staff nurses in their work and give more information knowledge and help. Therefore, there is a good teamwork among nurses, thus, they had a low work-related stress among colleagues.

The dimension of relationships was at a moderate level ($\overline{x}$ =3.67, SD = 1.08). In this study, subjects stated that they were subject to personal bullying at work from patients and their families (Appendix P). The possible explanation may be due to hospitalized patients' medical treatment is difficult in China. The patients need to pay high medical bills. Therefore, there is strained relationship between physicians or nurses and patients. According to the statistic of Medical Department, the medical staff suffered 15 violent and 58 oral bullying from patients and their families in First People's Hospital of Dali in 2015 (1st PHDL, 2015). The medical staff suffered huge stress when they are working in the hospital. However, to prevent this situation, the hospitals takes some actions to prevent medical violence happen. Some teams of armed guards were sent to serious departments to be on duty in shifts, such as the emergency department, pediatric department and outpatient department. At the same time, a fixed armed patrol guards the hospital 24 hours a day. This is the one way to decrease the stress of medical staff. Therefore, in this study, the relationships of work-related stress was at a moderate level.

The dimension of role was at a low level ($\overline{x}$= 4.30, SD = 0.82). In this study, subjects perceived that they know how to go about getting their job done and they are clear what their duties and responsibilities are (Appendix P). The possible explanation concerns the professional characteristics of nurses. According to the hospitals human resources orientation plan (1st PHDL, 2015; 2nd PHDL, 2015), before nurses begin to work, the new staff will attend a training program, they will learn the vision and mission of the hospital, and learn about the function of each department. For the new staff nurses, they will be required to pass the professional nursing examination. When they are assigned to each department, they will be under the supervision of an assistant professional nurse for three months. Therefore, they will be familiar with the nursing work of each department and they can learn the necessary skills. They will know how to go about getting their job done

and they are clear what their duties and responsibilities are. So in this study, subjects had a low level of work-related stress for their role.

The dimension of change was at a moderate level ($\bar{x}$ =3.64, SD = 0.89). In this study, subjects perceived that they lacked sufficient opportunities to question managers about changes at work, and when changes are made at work, they are not clear how they will work out in practice (Appendix P). The possible explanation may be because of the Chinese public hospitals' organizational structure, where power is still centralized. Hospital administrators make independent decisions, neglecting to communicate the hospital's vision and goals to the staff (Ma, Jin, Li, & Liu, 2004). Nurses have been little involved in organizational changes in terms of hospital and department development. In the view of many hospital managers, physicians can attract more patients which increases profit. However, nurses only perform injections, delivering medicine and basic nursing care, so the hospital does not provide many chances for nurses to participate in organizational changes, such as hospital decision making and policy formulation. A study showed that lack of promotion opportunities were the main cause of stress (Zhao et al., 2006). Therefore, in this study, the change dimension of work-related stress was at a moderate level.

Part III: Relationship Between Emotional Intelligence and Work-related Stress of Subjects

The result of this study showed a weak negative correlation between emotional intelligence and work-related stress of nurses ($r = -0.13$, $p < 0.01$) (Table 4). This means that nurses who reported themselves with high emotional intelligence had low work-related stress.

The result of a negative relationship between emotional intelligence and work-related stress confirms that emotional intelligence significantly contributes to reducing work-related stress whereby a person with high emotional intelligence will be better at identifying feelings of frustration and stress, then he or she can regulate his or her emotions, which will enable a more rapid recovery from psychosocial distress (Salovey & Mayer, 1990). Moreover, nurses who have higher emotional intelligence will have higher ability in problem solving and decision making (Salovey & Mayer, 1990), which

helps them to deal with difficult work and feel lower stress in their work. The result of this study revealed a significant but weak negative correlation between emotional intelligence and work-related stress ($r = -0.13$, $p < 0.01$) (Table 4). The result of this study is similar to that of Oginska-Bulik (2005) which found that emotional intelligence was negatively related to occupational stress ($r = -0.23$, $p < 0.001$). The result of this study is also supported by the study of Yamani et al. (2014) which found an inverse relationship between emotional intelligence and job stress ($r = -0.235$, $p < 0.032$). However, the result of weak relationship between emotional intelligence and work-related stress can be, because there are many factors influencing work-related stress, such as marital status (Marinaccio et al., 2013), gender (Rauschenbanch & Hertel, 2011), and educational level (Niezborala et al., 2003). Thus, the relationship of emotional intelligence and work-related stress in this study was not strong.