

**THE RELATION BETWEEN NURSE BURNOUT AND  
TURNOVER INTENTION: THE MODERATOR EFFECT OF  
PERCEIVED ORGANIZATIONAL SUPPORT AND  
DISTRIBUTIVE JUSTICE IN TERTIARY FIRST-CLASS  
HOSPITAL IN CHINA**

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The relation between nurse burnout and turnover intention: the moderator effect of perceived organizational support and distributive justice in tertiary first-class hospital in china

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## **Abstract**

In recent years, Chinese population is aging and growing rapidly, and the healthcare industry has been facing a problem of nurse shortage and high turnover rate. To get a better understand of the factors which may influence turnover intention in China, an integrated analysis was designed.

The main goals of this research are twofold: to comprehend whether burnout is related to turnover intentions, and if so how perceived organizational support and distributive justice may influence the relationship between burnout and nurse's turnover intention. To answer these questions, a survey was done in eight tertiary first-class hospitals in China. 266 returned validity questionnaire were contributing to this study.

The results show that both personal burnout and work related burnout are positively related to nurse's turnover intention. Perceived organizational support moderates the effect of nurse's personal burnout on turnover intention and distributive justice moderates the effect of nurse's work related burnout on turnover intention in China.

**Keywords:** Burnout, turnover intention, perceived organizational support, distributive justice.

**JEL Classification Systems:** Labor Management (M54); Dissertations (Y40)

## Resumo

Nos últimos anos, a população chinesa está a envelhecer e a crescer rapidamente, e a indústria da saúde tem enfrentado o problema de escassez de enfermeiros e elevada taxa de rotatividade. Para obter uma melhor compreensão dos fatores que possam influenciara intenção de rotatividade na China, foi realizada uma análise integrada.

Os principais objetivos desta investigação são dois: compreender se o desgaste (burnout) está relacionado com a intenção de rotatividade (turnover), e se sim como o suporte organizacional percebido e a justiça distributiva podem influenciar a relação entre o desgaste e a intenção de rotatividade dos enfermeiros. Para responder a estas questões, foi realizado um inquérito em oito hospitais de referência na China. 266 questionários válidos recolhidos contribuíram para este estudo.

Os resultados mostram que tanto o desgaste pessoal como o desgaste associado ao trabalho estão positivamente relacionados com a intenção de rotatividade dos enfermeiros. O suporte organizacional percebido modera o efeito do desgaste pessoal do enfermeiro sobre a intenção de rotatividade e a justiça distributiva modera o efeito do desgaste associado ao trabalho do enfermeiro sobre a intenção de rotatividade na China.

Palavras-chaves: Desgaste (burnout), intenção de rotatividade (turnover), suporte organizacional percebido, justiça distributiva.

## **Acknowledgments**

This research is design to understand the moderator factors which influence the relationship between nurse burnout and turnover intention in China. 266 nurses cooperated with this study contributing to the conclusions presented further on. I would like to express my gratitude to all those who helped me during the writing of this thesis.

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## **Chapter1.Introduction**

In worldwide, population is aging and growing rapidly, it comes harder to meet people's demand of high quality medical service. Based on world health report (2006), the shortage of healthcare worker reaches to 4.3 million in 2006 and it is expected to increase by 20% in next two decades. Since nurse is the largest group in hospital settings, researchers need to pay more and more attention to the problem of nursing shortage and nurses' high turnover rate. Based on the report of Bureau of Labor Statistics, in 2015, "nursing shortage will reach 1.05 million by 2022". However, Kovner (2007) found that inside of newly registered nurses, 13% leaved their job in the first year after work and 37% of them choose leaving the nursing profession. Therefore, it is important to reduce nurse's turnover rate.

China has even more seriously problems of nurse shortage and high turnover rate. Chinese Ministry of Health reported that "nursing workforce in China (2013) was 2,244,000 persons- a ratio of 1.85 nurses per 1000 people". Compared with government development planning for medical and health personnel (2011-2020), "4,450,000 Registered Nurses (RNs) are needed by the end of 2020 (Ministry of Health of China, cited 9 September 2015). However, the supply of high quality healthcare service was not able to match the market demands. In 2012, Chinese Nursing Association indicated that China faced the shortage of at least one million nurses. Nurse's poor working conditions were believed to connect with the shortage (Buerhaus, Staiger and Auerbach, 2000). Specifically, poor working conditions mean high workload, work stress, dissatisfaction and burnout (Yang and Liu, 2014). Moreover, this inadequate supply and high demand for nurses have resulted in nurse's overworked, burnout and high turnover rate in China. Tang (2012) found that in the eastern of China, the nurse turnover rate was 18.69% in 2012. Recently, Chinese government has paid close attention to the shortage but high turnover rate of nurses

and several studies have been proposed to solve this problem. Organizational support theory states that increased perceived organizational support can decrease occupational burnout, absenteeism and turnover behaviors (Eisenberger et al. 1986, Rhoades and Eisenberger, 2002). Furthermore, organizational justice can create feelings of goodwill in the workplace and cause positive outcomes for both the organization and the employees (Folger and Cropanzano, 1998; Greenberg, 1990). In contrast, a perception of unfairness in the workplace can have negative influences, such as job stress, low job satisfaction and turnover behaviors (Folger and Cropanzano, 1998). So it is very important to combine these factors together and explore the influences on nurse's turnover intention.

However, when the keywords "nurse" and "turnover intention" were searched in database, most of the result shows only the factors which can influence nurse's turnover intention. There is a lack of an integrated analysis of nurse turnover intention in China. Thus, this study is designed to have a better understand of the moderator factors which will influence the relationship between nurse burnout and turnover intention in China.

This study was designed to explore three questions:

1. In China, does burnout affect nurse's turnover intention?
2. In China, how could perceive organizational support influence the relationship between burnout and nurse's turnover intention?
3. In China, how could distributive justice influence the relationship between burnout and nurse's turnover intention?

To answer these questions, first, I will review relevant literatures about job burnout, nurse's turnover intention, organizational support and distributive justice. The most important is to explore the relationship between them to build the theoretical model of this study. Second, I will explain the method which will be used in this study, including the participants, procedure and analysis strategy. Third, I will present the



main findings, and interpret the results. Finally, I will outline the limitations of the study, discuss hospital management implications and provide some suggestions to mitigate the present situation on nurse's turnover in China.

## **Chapter2. Literature review**

### **2.1Burnout theory**

In recent years, nurses in China have experienced a high level of job stress and burnout (Guo, Chen, and Liu, 2016). American psychologists Freudenberger (1974) and Maslach (1984) found that burnout is a common phenomenon in nursing, since nurse are a public service profession and has been documented to have high levels of stress (Chang et al., 2007). Burnout is often associated with absenteeism, intention to leave and actual turnover. Moreover, for people who stay on the job, burnout results in low productivity and effectiveness at work (Freudenberger, 1974; Maslach, 1984). Based on these ideas, it is relevant and useful to study burnout and the related factors of burnout on nurses in China in order to provide theoretical guidance and support for developing prevention and intervention to mitigate Chinese nurse's burnout.

#### **2.1.1 Concept of burnout**

According to the studies on Psychology, burnout was first defined by the American psychologist Freudenberger (1974: 159) as “a state of mental and physical exhaustion caused by one's professional life”. Maslach defined burnout as a “syndrome of emotional exhaustion and cynicism that occurs frequently among individuals who do ‘people-work’ of some kind” (Maslach and Jackson, 1981: 99). It is a physical, emotional and intellectual exhaustion syndrome manifested by adverse attitude to professional life and other people with the development of a negative self-esteem in the individual experiencing chronic fatigue, and feelings of helplessness and hopelessness (Maslach, 1981). Furthermore, based on Maslach's study in 1982, burnout is a phenomenon in which the cumulative effects of a stressful work environment gradually overwhelm the defenses of staff members, forcing them to withdraw psychologically (Maslach, 1982). Burnout results in chronic emotional

exhaustion (overextended and exhausted by one's work), depersonalization (unfeeling and impersonal approach towards recipients of one's care) and reduced personal accomplishment (competence and successful achievements in one's work). Burnout has been studied extensively in nursing settings (Maslach, 1984).

Pines and Aronson (1988) define burnout as a state of physical, emotional and mental exhaustion caused by long-term involvement in situations that are emotionally demanding. Accordingly, “Physical Exhaustion is characterized by low energy, chronic fatigue and weakness”; “Emotional exhaustion as the second component of burnout, involves primarily feelings of helplessness, hopelessness and entrapment” and “Mental Exhaustion, the third component, is characterized by the development of negative attitudes toward one’s self, work and life itself” (Pines and Aronson, 1988: 331). Almost identical to the definition provided by Pines and Aronson, Schaufeli and Greenglass defined burnout as “a state of physical, emotional and mental exhaustion that results from long-term involvement in work situations that are emotionally demanding” (Schaufeli et al., 2001: 501). Several research findings have showed that burnout is correlated with numerous self-reported measures of personal distress (Belcastro and Gold, 1983; Greenglass, 1990; Schaufeli and Enzmann, 1998). These findings are similar as those report for teachers that burnout also related positively with depression, anxiety and summarization (Greenglass, 1990; Bakker et al., 2000).

### **2.1.2 Burnout Measurement and Theoretical model**

There are several frequently-used measurement instruments of burnout, including the Maslach Burnout Inventory, MBI (Maslach, 1981), Burnout Measure, BM (Pines and Aronson, 1988), the 10 items short version of BM (Pines, 2005) and the Copenhagen Burnout Inventory (Kristensen, 2005).

#### **Maslach Burnout theory and measurement**

In Maslach theory, burnout is a phenomenon in which the cumulative effects of a

stressful work environment gradually overwhelm the defenses of staff members, forcing them to withdraw psychologically. It includes three factors: emotional exhaustion, cynicism (depersonalization) and inefficacy (diminished personal accomplishment) (Maslach, 1982). Exhaustion is the central quality of burnout and the most obvious manifestation of this complex syndrome. It means someone feel overextended and exhausted by their work. Within the human services, the emotional demands of the work can exhaust employee's capacity to be involved with, or responsive to the needs of service recipients. Cynicism (depersonalization) explains unfeeling and impersonal approach towards recipients of one's care. It is an attempt to put distance between oneself and service recipients by actively ignoring the qualities that make them unique and engaging people (Maslach, 2001). Inefficacy (diminished personal accomplishment) shows invalid accomplishment or reduced personal achievement. Exhaustion or depersonalization interfere with effectiveness, in other words, when employee feel exhausted or help people toward whom one is indifferent, it is hard to gain a sense of accomplishment. The lack of personal accomplishment seems to arise more clearly from a lack of relevant resources, whereas exhaustion and depersonalization emerge from the presence of work overload and social conflict (Maslach, 2001).

In terms of burnout development, Maslach (2001) has described different possible models. It is likely that depersonalization (cynicism) is the first phase of burnout, followed by inefficacy, and finally exhaustion. An alternative view is that different dimensions developed simultaneously but independently (Maslach, 2001). Researches based on the phase model found that the progression of phases from low to high burnout is connected with worsening indices of both work and well-beings (Maslach, 2001). Another model of Maslach three dimensions hypothesized a different continuous progression after a period of time, in which the occurrence of one dimension precipitates the development of another. Based on this model, exhaustion occurs first, leading to the development of cynicism, which result in inefficacy. In a study of hospital nurses, the author found that stressful interactions with supervisors

increase the nurses' feelings of exhaustion and then, high levels of exhaustion result in cynicism, especially when nurses lack support from their colleagues. When cynicism persists, nurses' feelings of efficacy diminish, although supportive contact with colleagues may help to decelerate this process (Leiter and Maslach, 1988).

Maslach Burnout Inventory (MBI) has been the most popular measurement of burnout since it was introduced in 1981 (Maslach and Jackson, 1981; Schaufeli and Enzmann, 1998). According to Schaufeli and Enzmann (1998), MBI has been applied in more than 90% of all empirical burnout studies in the world. Moreover, MBI have three different versions: Maslach Burnout Inventory general survey (MBI-GS) applied in all occupational sectors, Maslach Burnout Inventory human service survey (MBI-SS), Maslach Burnout Inventory educator survey (MBI-ES).

The MBI-GS includes three subscales: Exhaustion-- 5 items, Cynicism-- 5 items and Professional Efficacy—6 items. High scores on Exhaustion and Cynicism, and low scores on Professional Efficacy are indicative for burnout (PE-items are reversibly scored). According to current studies, there are three different models of the factorial validity of MBI-GS: (1) a one factor model that agree with the one-dimensional view on burnout (Pines and Aronson, 1988; Shirom, 1989); (2) a two factor model that includes the “core of burnout” factor—Exhaustion and Cynicism along with a separate Professional Efficacy (Green, Walkey and Taylor, 1991); (3) a three factor model with correlated Exhaustion and Cynicism factors and an independent Professional Efficacy factor, since personal accomplishment develops largely independent from the other two burnout dimensions (Cordes and Dougherty, 1993; Lee and Ashforth, 1996).

However, there is not a clear theoretical conceptualization and in-depth qualitative research of MBI-GS. There is no certain conclusion of which measures of MBI-GS ('general exhaustion', 'cynicism' and 'reduced professional efficacy') are parallel to those of the original MBI. It is not clear whether the instrument reflects the

experience of work-related burnout in the Chinese culture. Especially, it is not clear which forms of burnout experiences might differ greatly across occupational groups and socioeconomic categories (Yeh et al., 2007). Furthermore, the interrelationship of the three MBI subscales is not clear—some studies indicated ‘emotional exhaustion’ was not correlated with depersonalization or reduced personal accomplishment (Winwood et al., 2003).

### **Pines Burnout theory and measurement**

According to Pines’ Psychoanalytic-Existential Model (Pines and Aronson, 1988), which is based on Frankl’s (1976) ideas about the human being’s search for meaning, burnout is a symptom of physical, emotional and mental exhaustion resulting in the constant feeling of stress, hopelessness, despair and being trapped with the loss of enthusiasm, energy, idealism, perspective and purpose.

Pines and Aronson’s Burnout Measure (BM, 1988) is also a very frequently used instrument to assess burnout. Compare with MBI, the BM assesses the degree of burnout with one single score and BM is not restricted to a specific occupational area, since Pines assumes that burnout can occur in any occupational field, such as students, couples, parents, political activists and so on (Pines, 1988; Pines and Aronson, 1988). Furthermore, the items of BM are not design for a certain occupational groups, so the distinctiveness of the construct which they are meant to measure is threatened. That means it is difficult to discriminate them from indicators of similar constructs like fatigue or depression (Enzmann, 1998). The internal consistency of Burnout Measure is from 0.91 to 0.93, which seems likely that the BM is one-dimensional, or, they can thus be assumed to be highly correlated (Pines and Aronson, 1981). But in Russell’s (1980) study work on the multidimensional space of affective states, BM’s items were hypothesized to have three separate regions of that space, labeled anxiety, depression, and wornout, with wornout representing a combination of physical and emotional exhaustion (Russell, 1980). Shirom and Ezrachi (2003) used BM to investigate 704

senior army officers and found a four subscale regions-- anxiety, depression, wornout, and lack of vigor (Shirom and Ezrachi, 2003).

### **Copenhagen Burnout theory and Inventory**

In 2001, one of the leading researchers in this field—Schaufeli and Greenglass (2001) defined burnout as the physical, emotional and mental exhaustion statue, which is due to enduing participant in emotional demanding work. Based on this definition, in 2005 Kristensen defined a new form of burnout measurement, and three sub-scales were constructed accordingly: “(1) personal or generic burnout, measuring the degree of physical and psychological exhaustion experienced by the person, regardless of occupational status; (2) work-related burnout, measuring the degree of physical and psychological exhaustion which is perceived by the person as related to work; and (3) client related burnout—measuring the degree of physical and psychological exhaustion which is perceived by the person as related to work with clients” (Kristensen, 2005: 196).

Based on the studies, the Copenhagen Burnout Inventory” is designed by Kristensen (2005) and accesses the degree of burnout in a more straightforward way. In CBI the “core of burnout is fatigue and exhaustion” (Kristensen, 2005: 196). CBI instrument has three sub-dimensions: Person burnout, Work-related burnout and Client-related burnout. Each subscale was designed to be applied in different domains. The items of person burnout were designed to be answered by all human beings (a truly generic scale). The work-related burnout questions assume that the respondent has paid work of some kind. The last subscale, client-related burnout questions include the term “client” (or a similar term when appropriate, such as patient, student, inmate, etc) (Kristensen, 2005).

All subscales were found to have high internal reliability (the Cronbach’s alphas vary between 0.85 and 0.87), and non-response rates were small. The scales differentiated

well between occupational groups in the human service field, and the expected pattern with regard to correlations with other measures of fatigue and psychological well-being was found. Moreover, the three scales predicted future sickness absence, sleep problems, use of pain-killers, and intention to quit. Analyses of changes over time showed that substantial proportions of the employees changed with regard to burnout levels. It is concluded that the analyses indicate very satisfactory reliability and validity for the CBI instrument (Kristensen, 2005).

### **2.1.3 Burnout Antecedents**

#### **Demographic characteristics**

Various studies of demographic variables has been done to understand the factors that lead to burnout, inside of these, age is the one that has been most consistently related to burnout. For example, Maslach (2001) found that burnout is higher in younger staffs than the older age group (30 or 40 years old) staffs. This finding means that burnout appears to be more of a risk earlier in employee's career. Besides the reasons for such finding have not been found, these result can be viewed with caution because of the problem of survival bias, such as those who burnout early in their careers are likely to quit their jobs, leaving behind the survivors who consequently exhibit lower levels of burnout (Maslach, 2001).

When consider to marital status, those who are unmarried seem to be easier to burnout compared with those who are married. But only few studies have assessed the possible relationship between marriage state and burnout, so it is not possible to summarize these findings as an empirical trend (Maslach, 2001). In addition, higher educated workers tend to report higher levels of burnout than lower educated employees. It may be so, because high education employees have job with greater responsibilities and higher stress, and usually have higher expectations for their jobs.



## **Work-related factors**

### **Workload**

The workload mismatch is usually considered as excessive overload, since too many demands would exhaust employee's personal energy and recovery becomes impossible. Workload mismatch can also emerge when the wrong type of work is performed, even when it is required in reasonable quantities. Basically, workload is most directly related to the exhaustion dimension of burnout (Maslach, 2001).

### **Rewards**

A lack of suitable rewards for the work people do would also lead to burnout. Like insufficient rewards, as when staffs are not receiving the salary or benefits commensurate with their achievements. Sometimes the main reason is the lack of social rewards, as their hard work is ignored and not appreciated by others. Moreover, the lack of intrinsic rewards, like pride in doing important task, can also be a critical part of this mismatch. This mismatch of reward is closely connected with feelings of inefficacy (Maslach, 2001).

### **Fairness**

Fairness communicates respect and confirms employee's self-worth. A serious mismatch between the person and the job occurs when there is not perceived fairness in the workplace. Mutual respect between employees is the central of a community consciousness. When workload or pay is not equal, or when there is cheating and inappropriately evaluation and promotion, unfairness is occurring. Lack of fairness exacerbates burnout in at least two ways. On the one hand, the experience of unfair treatment is emotionally upsetting and exhausting. On the other hand, unfairness fuels a deep sense of cynicism about the workplace (Maslach, 2001).

#### **2.1.4 Burnout outcomes**

A mountain of work has been done to understanding the consequences of burnout for individuals and their health. Research findings show that stress and burnout are significant factors in the development of both physical and psychological illness (McGrath et al., 1989). Researchers indicate that burnout is correlated with numerous self-reported measures of personal distress (Belcastro and Gold, 1983; Greenglass, 1991; Schaufeli and Enzmann, 1998). Generally, burnout correlates positively with depression, anxiety and somatization (Greenglass et al., 2000). Job performance and health outcomes have been shown as the most related outcomes. However, the research findings have to be interpreted with some caution because of the reliance on self-report measures (rather than other indices of performance or health) and the relative absence of methodological designs that permit causal inferences (Maslach, Schaufeli and Leiter, 2001). Moreover, there are also some evidences showing that burnout has a negative influence on people's home life (Burke and Greenglass, 2001).

#### **Health**

Job burnout has been diagnosed by physicians and has been included in the ICD-10 Classification of Mental and Behavioral Disorders. Based on the studies of Job Demand-Resource model, job burnout mediates the relationships between different types of job demands and ill health. For example: the study in a group of Finnish teachers showed that job burnout mediated negative impact of disruptive employees' behavior, quantitative workload and poor physical working conditions on self-rated mental problems (Hakanen, Bakker and Schaufeli, 2006). Another study in the group of dentists indicated that emotional demands, quantitative workload and poor working conditions led to depression through increasing high job burnout (Hakanen, Schaufeli and Ahola, 2008).

In a study with service organization employees, Schaufeli and Bakker (2004) found

that qualitative and quantitative workloads led to psychosomatic symptoms, including headaches, cardiovascular problems and gastric problems, as a result of high job burnout. Job exhaustion is more predictive of stress-related mental problems (e.g., depression, anxiety) and physical problems (e.g., heart coronary disease, gastric problems) than the other two components of burnout (Lindeberg, Rosvall and Östergren, 2012; Lindblom, Linton, Fedeli and Bryngelsson, 2006). Based on Maslah's (2001) study, burnout has been linked to the personality dimension of neuroticism and the psychiatric profile of job related neurasthenia. Some data may support the argument that burnout is itself a form of mental illness. However, a common assumption is that burnout cause mental dysfunction, which can precipitate negative effects in terms of mental health, such as anxiety, depression, drops in self-esteem, and so on.

### **Job performance and low satisfaction**

Burnout has been recognized as a contributor to nurses' inability to perform assessment skills consistently and thoroughly. High burnout level is linked to lower job satisfaction, increased judgment errors and decreased work efficiency (Rosales, Labrague and Rosales, 2013). Nurse's burnout also affects the hospital environment and interferes with the achievement of medical goals as it may lead to nurse's low satisfaction, absenteeism and ultimately the decision to leave the profession (Maslach and Leiter, 1999). Woodhead, Northrop and Edelstein (2016) use the Job Demands-Resource Model in 250 nursing staff and recognized occupational stress can impact job performance negatively through high burnout. Moreover, burnout may affect job performance; overall quality of patient care also may be affected (e.g., the difficulties of providing and guaranteeing safe, high quality nursing care) (Morse, Salyers, Rollins, Monroe and Pfahler, 2012).

Maslah (2001) indicated that burnout can result in lower productivity and effectiveness of employees. Therefore, burnout is connecting with low job satisfaction

and a reduced commitment to the job or the organization. Furthermore, employees who suffer from burnout can have a passive influence on their colleagues, such as causing more personal conflict and disrupting job tasks.

### **Turnover intention**

Maslach (2001) found that burnout has been associated with several forms of job withdrawal, such as absenteeism, intention to leave the job and actual turnover. Burnout also affects the hospital environment and interferes with nurses' decision to leave the profession (Maslach and Leiter, 1999). Numerous factors have been linked to nurses' turnover intention, such as heavy workload, high level stress and burnout (Hayes et al, 2006, Laschinger, 2012). However, burnout among nurses has been identified as a key factor on nurses' intention to leave their jobs and/or the nursing profession (Aiken et al., 2002). Aiken et al.'s (2002) study also pointed that nurses experiencing high levels of burnout intend to leave their current positions within a year in the United States (Aiken, Clarke, Sloane, Sochalski and Silber, 2002).

## **2.2 Nurse's Turnover intention**

Turnover among employees in healthcare is a serious concern. Recent studies showed that within the first year of initial employment, up to 50% of new nurses change jobs (work in other hospital) (Winfield et al., 2009), about 13% intention to leave their jobs (Kovner et al., 2006) and some leave the profession (leave healthcare industry) altogether (Bowles and Candela, 2005; Scott et al., 2008). Consequences of high turnover in healthcare are diverse and negative, and can affect employees' well-being, the quality of patient care and system cost. High nurse turnover can negatively influence organization's capacity to meet patient needs and provide quality care (Gray and Phillips, 1996; Tai et al., 1998; Shields and Ward, 2001).

The measures of turnover intention are associated with the theoretical conception of intention of exit and neglect (Hirschman, 1970). Based on Farrell and Rusbult's study

(1992: 202), “the exit-quitting category includes job movement both within and across organizational boundaries, and a variety of cognitive activities that precede leaving. This behavior includes intentions of searching for a different job and thinking about quitting. The neglect category includes reactions where in the employee passively allows conditions to worsen. Such a behavior is best described as reduced interest or effort at work or increased error rate” (Vigoda, 2000).

In Hinshaw and Atwood’s study (1983), turnover intention and actual turnovers amongst nurses are determined by two types of job satisfaction: organizational related satisfaction is associated with group cohesion, job stress and control over decisions; and professional related satisfaction is related to nurse’s perception of the quality of care, time to do one’s job, and enjoyment derived from it.

### **2.2.1 Turnover Antecedents**

A quite number of attentions have been committed to individual and organizational factors that may influence turnover behavior, such as job satisfaction and burnout. Workload and stress are also important factors of turnover intention. A consistently heavy workload increases job tension and decreases job satisfactions, which will increase the likelihood of turnover (Davidson et al., 1997; Tai et al., 1998; Hemingway and Smith, 1999; Strachota et al., 2003). For example, in an empirical study, Aiken (2002) noted that each additional patient per nurse is connected with a 23% increase in the odds of burnout and a 15% increase in the odds of job dissatisfaction. Personal and organizational variables are directly related to the intention to leave, but only indirectly to actual turnover through felt stress, job satisfaction or organizational commitment.

### **2.2.2 Turnover Outcomes**

Several studies have pointed out that turnover intention is the most immediate determinant of actual turnover (Parasuraman, 1989; Beecroft et al., 2008).

Beecroft (2008) indicated that an employee's self-expressed intentions to leave their job are the best predictor of actual turnover. For example, whenever an employee leaves the job, his behavior has impact on the organization, on the well-being of remaining nurses, on the quality of patient's care and on the organization's capacity to meet patient's needs (Gray and Phillips, 1996; Tai et al., 1998; Shields and Ward, 2001).

Few studies have been conducted on nurse turnover. O'Brien-Pallas' (2001) study showed that when the number of nurses working in the hospital decreased, the patient's acuity and demand increased. Zboril-Benson (2000) found that higher rates of absenteeism were connected with lower job satisfaction, longer shifts, working in acute care and working full-time in the remaining nurses. Turnover intention of nurses also impact on the quality of patient's care. Lichig et al. (1999) adjusted the patient data using intensity weights to acuity and found that the higher number of nurses and the higher proportion of Registered Nurses (RNs) were significantly associated with shorter duration of stay. There are some evidences that the patient does suffer more physical and emotional experience in a health care environment when a high nurse is replaced (Lichig et al., 1999). In summary, researchers agree that the negative effects on employees involved in the initial productivity decline, staff morale and productivity decline. Studies that examine the economic effect on organization indicate that replacement cost estimations vary according to location and components included in the measure. Financial costs are incurred during the hiring process, such as advertising, recruiting, agency nurses and hiring. Indirect costs are due to Registered Nurse (RN) termination, orientation, training, and decreased RN productivity (Jones, 1990).

### **2.2.3 The relationship between burnout and turnover intention**

Several studies have reported the relationship between burnout and turnover intention. Aiken (2002) indicted that in the United States, nurses experiencing high levels of burnout intend to leave their current positions with a year. Furthermore, in 2011,

Rudman and Gustavsson reported that 50% of new graduate nurses in Swedish encountered burnout, which conversely increased their intention to leave their jobs in the first year of medical practice.

In China, only few studies have explored the relationship between nurses' burnout and turnover intention and the findings suggest that burnout is positively related to nurse's turnover intention. However, these studies were done in particular Chinese regions, which is not representative of China mainland. Furthermore, burnout instrument used was not a reliable instrument. Thus, in this study, I will try to fill this particular gap. In order to find this relationship, in this study I will replicate western studies and expect that all dimensions of burnout will positively relate to nurse's turnover intention.

**Hypothesis 1: In China, burnout is positively related to nurse's turnover intention.**

Hypothesis 1a: Personal Burnout (Burnout 1) is positively related to nurse's turnover intention.

Hypothesis 1b: Work-related Burnout (Burnout2) is positively related to nurse's turnover intention.

## **2.3Organizational support**

### **2.3.1 Concept of Perceived organizational support**

Researches of Perceived organizational support (POS) began with the observation that managers' concerns about employees' commitment to the organization are positively related to the employee's focus on the organization's commitment to them. For employees, the organization is an important source of social psychological resources, such as respect and care, as well as wages and medical benefits and so on. Based on Social Exchange Theory, the American psychologists (Eisenberger, Huntington, Hutchison and Sowa, 1986) believed that the commitment between the organization

and the staff should be mutual, rather than the unilateral request. And they put forward the concept of Perceived Organizational Support: Perceived organizational support is built on employees' awareness that how organization values their contributions and cares about their benefits, and based on their views on how the organization will reward their job performance and meet their social emotional needs (Rhoades and Eisenberger, 2002).

### **2.3.2 Theoretical background**

#### **Social exchange theory**

Social exchange theory is a cross-disciplinary paradigm with roots in anthropology (e.g., Sahlins, 1972), sociology (e.g., Blau, 1964) and social psychology (e.g., Gouldner, 1960) that dates back at least as far as the early 20<sup>th</sup> century (e.g., Mauss, 1925). Social exchange theory shows that in order to maintain long-term relationships, the two parts must be felt that in that relationship they are receiving valuable things. This exemplifies a phenomenon known as the norm of reciprocity. Gouldner (1960) argues that if one party is privileged to the other, the reciprocity norms will force the rewarded party to return the favor. In the organizational environment it is often the exchange of dedication and loyalty. This aspect of social exchange has been regarded as a social exchange relationship (e.g., Cropanzano, Byrne, Bobocel and Rupp, 2001). In the relationship of social exchange, employees provide dedication and loyalty to the organization by reducing absenteeism, turnover and improving job performance (Rhoades and Eisenberger, 2002). In return, employers do not only provide payments and benefits, but also show they pay attention to employee's benefits, respect and concern to appreciate employee's dedication and loyalty. Therefore, employers and employees navigate a two-way street of social exchange, on which both of them can be mutually rewarded.



## **Organizational support theory (POS)**

Based on organizational support theory, on the basis of the organization's personification, employees view their favorable or unfavorable treatment as an indication that the organization favors or disfavors them. Social exchange theorists argue that the resources obtained from others are more valuable if they are based on free choice rather than donor control (Eisenberger and Speicher, 1992). Thus, a particular organizational situation will contribute more to POS if employees think organizational rewards and favorable job conditions such as pay, promotions, job enrichment, and influence over organizational facilities, are voluntary from the organization, rather than external restrictions, such as union negotiations on Health and safety regulations (Eisenberger et al., 1986; Eisenberger, Cummings, Armeli and Lynch, 1997; Shore and Shore, 1995). As supervisor is an organization agent, employees who receive a popular treatment from the supervisor should have a better perception of POS.

Organizational support theory also involves the psychological process of the consequences of POS. First of all, on the basis of reciprocity, POS should induce employees to have a responsibility to care for organizational benefits and help organizations achieve their goals. Second, the caring, approval and respect connected by POS should be able to meet social and psychological needs, and guide employees to incorporate organizational membership and roles as their social identity. Lastly, POS should strengthen the staff's confidence of the organization to recognize and reward their better performance (Eisenberger et al., 2002).

### **2.3.3 Measurement of Perceived Organizational Support**

Researches surveying many occupations and organizations provided evidence for internal consistency and unidimensionality of the survey generally used to assess POS (Eisenberger et al., 1986). The Survey of Perceived Organizational Support (SPOS) is

a one-dimensional measure of the general belief held by an employee that the organization is committed to him or her, values his or her continued membership, and is generally concerned about his or her well-being (Eisenberger et al., 1986).

#### **2.3.4 The influence of organizational support into the relationship between nurse's burnout and turnover intention.**

As the actual turnover rate is related to intention to leave, the investigation to the relevant psychosocial factors can provide advice to hospital manager in order to help retain the nurse staffs (Ambrosi et al., 2011). Current evidence suggests that perceived organizational support was an important contributor to emotional commitment, job involvement, job satisfaction, turnover and retention intentions (Rhoades et al., 2001; Dawley et al., 2010; Fu et al., 2013; Gorji et al., 2014). Organizational support theory states that increased perceived organizational support can decrease occupational burnout, absenteeism and turnover behaviors (Eisenberger et al., 1986; Rhoades and Eisenberger, 2002). And it is positively related to the well-being and retention of nurses, as well as to improved quality of patient care. Moreover, the "micro-environment" characteristics of the organization is connected with the leadership style of nursing manager and the trust of nurse to their supervisor, which are important to the well-being of nurses, in term of both reduced job burnout and turnover intention. Several studies in the health care context found that care and respect on the part of the supervisor protects nurses from job burnout (e.g., Kanste et al., 2007). A study of Wang and Xu (2008) indicated that perceived organizational support was significantly and negatively related to emotional exhaustion, depersonalization and low personal accomplishment in Chinese teachers. Bobbio et al. (2012) reported that perceived organizational support was a significant protective factor against burnout among nurses in Italy.

According to Ambrosi et al. (2011), most of the nurses who are willing to leave are dissatisfied with their work, relationships with colleagues, supervisors and doctors.

Comparing with the nurses who want to stay, their commitment to the organization is lower and has less support from the organization. Nurses' psychological engagement of work with their turnover intention has the strongest negative correlation, followed by organizational support (Carter and Tourangeau, 2012). Actually, several researchers have focused on perceived organizational support (POS) as a major predictor of turnover intention (e.g., Maertz, Griffeth, Campbell and Allen, 2007). There are several factors that are associated with POS, such as organizational justice (Ambrose and Schminke, 2003), politics (Andrews and Kacmar, 2001), participation in decision making (Allen, Shore, and Griffeth, 2003), and supervisor support (Settoon, Bennett and Liden, 1996). Outcomes of POS include increased job satisfaction (Eisenberger et al., 1997), performance (Shanock and Eisenberger, 2006), commitment (Hochwarter, Kacmar, Perrewe and Johnson, 2003), and reduced turnover (Allen et al., 2003; Rhoades and Eisenberger, 2002). Perceived organizational support usually improve employee's obligation to help the organization achieve its objectives, is positively connected with the emotional commitment to the organization, and the expectation that good performance will be rewarded. Therefore, POS improves employees' in-role performance and decreases their stress and withdrawal behaviors, like absenteeism and turnover (e.g., Jawahar et al., 2007; Rhoades and Eisenberger, 2002)

Based on that, organizational support may help to reduce the job burnout of nurses, and ultimately their intention to leave the hospital. However, in China, the correlation between perceived organizational support, burnout and turnover intention in nurses has not been examined until now. Therefore, from these backgrounds, we hypothesized that in China, organizational support moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher organizational support than among those with lower organizational support.

**Hypothesis 2: In China, organizational support moderates the effect of nurse's**

**burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher organizational support than among those with lower organizational support.**

Hypothesis 2a: In China, organizational support moderates the effect of nurse's personal burnout (burnout1) on turnover intention such that the negative relationship between personal burnout (burnout1) and turnover intention is weaker among employees with higher organizational support than among those with lower organizational support.

Hypothesis 2b: In China, organizational support moderates the effect of nurse's work related burnout (burnout2) on turnover intention such that the negative relationship between work related burnout (burnout2) and turnover intention is weaker among employees with higher organizational support than among those with lower organizational support.

## **2.4 Distributive justice**

### **2.4.1 Concept and theory of distributive justice**

In general, people expect to be treated fairly. The issues of fairness and justice exist in everywhere; they may appear in movies, magazine articles, books and personal relationships. Fairness and justice are an integral part of human interactions and necessary for modern society to function (Folger and Cropanzano, 1998). Fairness and justice are significant principles of the criminal justice system. The meaning of justice and fairness are critical elements for organizations and most employees (Folger and Cropanzano, 1998; Greenberg, 1987). In the literature, the issues of justice and fairness in organizations are generally referred to as organizational justice. The concepts of fairness and justice are powerful forces in the workplace. For example, if the organization does not have a perception of fairness, it generally has

problems in guiding and motivating employee. The perception of fairness in employing organization is “a basic requirement for the effective functioning of organizations and the personal satisfaction of the individuals they employ” (Greenberg, 1990: 399). It includes three main components: distributive justice, procedural justice and interactional justice. Specifically, distributive justice focuses on the perceptions of fairness of outcomes for employees within an organization (Folger and Cropanzano, 1998; Greenberg, 1990) and is based upon the idea of equity (Folger and Cropanzano, 1998; Greenberg, 1982). Employees assess organizational outputs (evaluations, pay, amount of work assigned, job assignments, and shift assignments) according to their own inputs and then compare it with what others in similar situations have received. If they think the output is fair, then they are more likely to have an active view of the distribution of justice within the organization. “In a sense, distributive justice is based upon the exchange principle. People look at what they have done in exchange for what they receive” (Lambert, 2003: 157). Distributive justice is evaluated by rewards and also punishments, which means that organizational punishments also have to be fair in comparison to the negative behavior of employee (Lambert, 2003). In summary, distributive justice refers to employees’ perceptions of whether the decisions of organization are fair and based upon what employees have contributed to the organization (Folger and Cropanzano, 1998).

#### **2.4.2 The influence of distributive justice into the relationship between nurse’s burnout and turnover intention**

Organizational justice can create feelings of goodwill in the workplace and cause positive outcomes for both the organization and the employees (Folger and Cropanzano, 1998; Greenberg, 1990). In contrast, a perception of unfairness in the workplace can have negative influences as well (Greenberg, 1997). If employees feel that they are treated unfairly, their morale suffers and there is an increased likelihood that they will either retaliate against the organization or quit (Folger and Cropanzano, 1998). In a research, Lambert (2003) found that distributive justice had a positive

relationship with job satisfaction. Moreover, Lambert, Hogan, and Griffin (2007) reported that distributive justice is a significant predictor of employee's job satisfaction, but negatively related with job stress. In 2010, a study with 160 security institution staff found that distributive justice had a significant inverse relationship with burnout (Eric and Nancy, 2010). The perception that outcomes are unfair can result in irritation, resentment and anger. And these emotions can cause staff to experience job stress and ultimately burnout. If an employee feels that outcomes are unfair, it is probably less likely that the employee will desire to remain with the organization. Similarly, Ggreenberg's (1990) finding suggest that workers who perceive that there is only a "veneer of fairness" will probably experience greater job stress and a feeling of lack of a legitimate purpose. When the organization is perceived as lacking legitimacy, employees will not trust the organization and will leave the organization when another employment opportunity arises. Thus, this small body of researches showed that distributive justice affects employees' feelings, attitudes and behaviors, at least in the areas of job stress, job satisfaction and burnout.

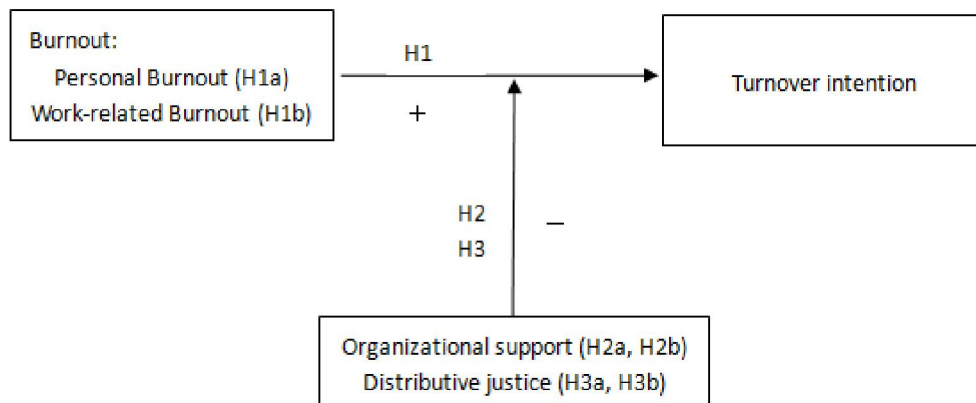
However, the body of research concerning the influence of distributive justice into the relationship between job burnout and turnover intention remains relatively small. It is necessary to explore the association of distributive justice with burnout and turnover intention. Based on all the researches above, we supposed that, in China, distributive justice moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher perceptions of distributive justice than among those with lower perceptions of distributive justice.

**Hypothesis 3: In China, distributive justice moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher perceptions of distributive justice than among those with lower perceptions of distributive justice.**

Hypothesis 3a: In China, distributive justice moderates the effect of nurse's personal burnout (burnout1) on turnover intention such that the negative relationship between personal burnout (burnout1) and turnover intention is weaker among employees with higher perceptions of distributive justice than among those with lower perceptions of distributive justice.

Hypothesis 3b: In China, distributive justice moderates the effect of nurse's work related burnout (burnout2) on turnover intention such that the negative relationship between work related burnout (burnout2) and turnover intention is weaker among employees with higher perceptions of distributive justice than among those with lower perceptions of distributive justice.

So the theoretical model of this study is:



## **Chapter3. Methodology**

### **3.1 Survey with questionnaire**

This study is based on a survey with questionnaire. Questionnaires are often viewed as a standard and objective way to do the research. The advantage of a survey with questionnaire is in being able to transcend individual differences and identify patterns and processes which can be linked to social structures and group or organizational features (Robson, 1993). In the questionnaire, the responses are gathered in a standardized way, so the outputs are more objective, especially more so than interviews. And large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way. So it is relatively quick to collect information using a questionnaire, practically when collecting data from a large portion of a group. Moreover, the results of questionnaires can usually be quickly and easily quantified by either a researcher or through the use of a software package.

The relative weakness of questionnaires is that they cannot capture the subtleties and complexities of individual human behavior. It is limited to quantitative measures of a simple behavior or, a small number of such behaviors (Robson, 1993). For example, questionnaire can only ask a limited amount of information without explanation and there is no way to tell how truthful a respondent is being. In the questionnaire, people may read each question in different ways and therefore reply based on their own interpretation of the question. For example, what is “good” to someone may be “poor” to someone else, and the level of subjectivity is not acknowledged (Ackroyd, 1981). Actually, it is now widely acknowledged that the beliefs, values and expectations of the researcher can influence the research process at virtually all stages (Rosenthal, 1976; Rosnow and Rosenthal, 1997).

#### **Validity**

Validity refers to the accuracy of a result. In other words, it tries to measure whether



the results capture the real state of affairs. When considering about reliability, it is the stability or consistency with which I measure something. Unreliability may have various causes, including: participant error, participant bias, observer error and observer bias (Robson, 1993). So, reliable studies include usually random samples, avoid biases, and should be conducted by researchers who are not influenced by funding or the desire to seek certain results (Golafshani, 2003).

In general, validity refers to whether or not a study is well designed and provides results that are appropriate to generalize to the population of interest. There are many different types of validity, such as construct validity, internal validity and generalizability (external validity). It is complex to determine construct validity. At its simplest, construct validity is “the degree to which a test measures what it claims, or purports, to be measuring” (Brown, 1996). The most important to construct validity are the theoretical ideas behind the trait under consideration. Based on Robson (1993), internal validity is the extent to which the treatment actually caused the outcomes. In other words, if a study can plausibly demonstrate the causal relationship between treatment and outcome, it is referred to as having internal validity. Generalizability refers to the extent to which the findings of the research are more generally applicable (Robson, 1993). Namely, it is the extent to which the results of a study can be generalized to other situations and to other people (Aronson et al., 2007).

Randomization in studies is critical to ensuring the validity of research. “The goal of randomization is to produce comparable groups in terms of participant characteristics, such as age or gender, and other key factors. In this way, the two groups are as similar as possible at the start of the study. At the end of the study, if one group has a better outcome than the other, the investigators will be able to conclude with some confidence that one intervention is better than the other.” (Golafshani, 2003: 599). When considering the size of the big population, it is not possible to do the survey with an entire population. Thus, it is important to have an appropriately sized sample to achieve reliable results and high statistical power – the ability to discern a difference between study groups when a difference truly exists. By this way, a sample representative of the population is used and the data are analyzed and the conclusion is drawn to the population under the study (Nayak, 2010).

Over the past decade, Internet and computer-mediated communication have increased significantly (Fox, Rainie and Carter, 2001; Horrigan, 2001; Nie and Erbring, 2000; Nie, Hillygus and Erbring, 2002). Survey authoring software packages and online survey services make online research easier and faster. Compared with traditional paper-and-pencil or mail surveys, the online survey has a higher response rate and allows data to be handled easier. Moreover, using the Internet survey is cost saving since it eliminates the printing and mailing of survey instruments (Cobanoglu, Warae and Morec, 2001). During this research, questionnaires are edited both in traditional paper-and-pencil and online (sojump.com, the most popular online survey website in China).

### **3.2. Setting**

In this study, I used a convenience sample that included of nurses working in eight hospitals in Guangzhou (south of China), Shenzhen (south of China), Chongqing (southeast of China), Zhengzhou (middle of China). All of these hospitals are belong to tertiary first-class hospitals, the highest rank in Chinese healthcare system. Furthermore, all of these hospitals are not only modern comprehensive hospital, but also the first-class hospital underpinned by teaching and research.

### **3.3 Questionnaire**

In order to guarantee the reliability and validity of this questionnaire and make a comparison with similar studies, I picked the scales which have high internal consistency. This questionnaire includes four scales in total, including Perceived organizational support scale (SPOS), Copenhagen Burnout Inventory (CBI), Measure of Turnover Intention and Distributive Justice. Furthermore, the questionnaire has some demographic questions such as age, educational level and department belongings. Be aware, in this study, only Perceived organizational support scale (SPOS) has a Chinese version, so I translated Copenhagen Burnout Inventory, Measure of Turnover Intention and Measure of distributive justice into Chinese and pre-tested with several nurses to ensure its clarity. Some items were adjusted based on the feedbacks from these pretests. After that, two bilinguals who were unrelated to

this study and blind to the English originals version translated these questions back into English. The Chinese back translation was compared with the original items, and some items were modified based on comments and suggestions from the original developer of these scales. All of measurements below are presented according to the sequence of the questionnaire.

### **Demographic factors**

Based on Maslach's (2001) research, some social demographic variables seem to be associated with burnout. Inside of these factors, age is the most consistently related to burnout, as burnout is higher in younger staffs. When thinking about marital status, those who are unmarried seem to be easier to burnout compared with those who are married. Having children may also be a factor to feel burnout compared with those professionals without a child. Moreover, higher education level report higher levels of burnout than lower educated employees. It maybe because high education employees have job with greater responsibilities and higher stress, and they usually have higher expectations for their jobs (Maslach, 2001). I did not found researches talking about differences on turnover intention between different departments. However, based on my own medical practice experiences, the differences exist. Based on these findings, the questionnaire included information about participants' age (in years), marital status (not married, married), children (yes, no) seniority (in years), educational level and department belonging.

### **Perceived organizational support**

The SPOS refers to the employers' perception of how valuable their employee is. Perceived organizational support (SPOS) (Eisenberger, 1986) includes 36 items. The items represent various possible evaluative judgments of the employee by the organization and discretionary actions the organization might take in diverse situations to benefit or harm the employee. In order to control for an agreement response bias, half the statements were positively worded and half were negatively worded. Based on Eisenberger's (1986) study, there is only one dimension inside. Eisenberger (1986) also designed the short version of the survey, which includes 16 items. The reliability coefficient (Cronbach's alpha) is 0.97, with item –total

correlations ranging from 0.42 to 0.83 (Eisenberger, 1986). In this study, I chose the short version of the survey. Chinese version of survey of Perceived organizational support is translated by Hui, and it showed to have good psychometric properties (Hui et al., 2004).

### **Copenhagen Burnout Inventory**

Copenhagen Burnout Inventory (CBI) (Kristensen, 2005) includes 19 items and have three sub-dimensions: Personal burnout (6 items), work-related burnout (7 items), and client related burnout (6 items). The questions on personal burnout were formulated in a way so that all human beings can answer them (a truly generic scale). The work-related burnout questions assume that the respondent has paid work of some kind. Finally, the client-related burnout questions include the term “client” (or a similar term when appropriate such as patient, student, inmate, etc.). The reliability coefficients (Cronbach’s alphas) are very high (from 0.85 to 0.87) (Kristensen, 2005).

Actually when I read some relevant researches done in the Chinese context, I realized that other researchers found some problems associated with this scale. Scholars found that the interrelationship of the last subscale-“client related burnout” was not correlated with other subscales and not suitable for all working people (Yeh, Cheng, Chen, Hu, and Kristensen, 2007). Consequently, some researches only use the first two dimensions, personal burnout and work related burnout, in their studies of Chinese version of Copenhagen burnout inventory. For example, Yeh et al. (2007) used only personal burnout and work related burnout to explore the Chinese version of the Copenhagen Burnout Inventory with 384 employees from two companies in Taiwan. Another study also used the former two dimensions to evaluate the potential factors associated with the Chinese version of CBI (Lin et al, 2013).

Furthermore, Fong’s (2014) findings suggest that items from the first two CBI sub-dimensions, “personal burnout” and “work burnout”, are highly correlated and so share overlapping concept. These two subscales seem to measure almost the same ideas and some items are confused to the participants. For example, item 4 (exhausted at the starting of one day), 9 (work frustrate) and 13 (tired working hours) seem to reflect a specific frustration and disgusted with work, whereas other items refer to

exhaustion in a more general sense. Yeh et al. (2007) also identified the same problem and suggested to drop item 4 and item 13 in future studies. In our study, the participants are full-time nurses and work more than 45 hours per week. For these nurses, work represents an essential part of their lives and client (patient) is the main content of their work. So, for them, it is difficult to differentiate their burnout related to client (in this case, patient) from that in other domains of their work or living, thereby producing mixed burnout subscale across different domains. Based on these features, I decided to use only the first two subscales (personal burnout and work related burnout) in this study and to follow Yeh et al.'s (2007) procedures, which means to drop item 4 and item 13 from the Copenhagen burnout inventory instrument.

### **Measure of Turnover Intention**

This study used a three-item scale by Vigoda (2000) to measure turnover intentions. I use this scale because Abbas, Raja and Bouckennooghe (2014) adopted a similar procedure when explore the combined effects of perceived politics on job satisfaction, turnover intentions and performance. Sample items are (1) "I often think about quitting," (2) "Next year I will probably look for a new job outside this organization," and (3) "Lately, I have taken interest in job offers in the newspaper." The reliability (Cronbach's alpha) of this measure was 0.76 (Abbas et al., 2014).

### **Measure of Distributive justice**

The original version of the measure of distributive justice has five items, including pay level, work schedule, workload and job responsibilities (Niehoff and Moorman, 1991). But, in this study, distributive justice was measured using three items assessing the fairness of different work outcomes, including pay level, work load and job responsibilities. This scale was based on one used by Moorman's study, which reported a reliability coefficient (Cronbach's alpha) above 0.90 (Moorman, 1993).

In this questionnaire, all scales were measured on a Six-Point Likert-type scale in order to guide the responses to be positioned in either side of the scale, as Chinese respondents tend to take a middle position in ratings (Trigo, 2003).

### 3.4 Sampling

I sent the questionnaires to 350 nurses, and questionnaires were completed and returned by 266 nurses. The response rate is 76%, which is quite acceptable comparing with similar researches.

There are two rounds. In the first round, the questionnaires were sent to 200 nurses. Questionnaires were completed and returned by 156 nurses, representing a response rate of 78%. In the second round, I send questionnaires to 150 nurses and got a response of 110. The response rate is 73%. Participants received questionnaire through online survey link or mailing. In the first round, 70 traditional paper-and-pencil questionnaires were sent to the respondents. Finally, 52 valid questionnaires were collected. In the same time, 130 questionnaires were collected online and have 104 valid questionnaires. In the second round, all 150 questionnaires were sent online and got a valid response of 110. Furthermore, all participants were told that their answers are confidential and anonymous, which will reduce the possibility of response bias.

The participants were all female with an average age of 28.10 years ( $SD=5.31$ ) and their average seniority is 5.98 years ( $SD=5.80$ ). Moreover, the youngest respondent is 19 and the oldest 51; it presents a broad range of ages and different generations. Regarding the marital status, children and seniority, on average, about 50% of the respondents provide valid information. Based on the valid responses, 48% of respondents were married; 98 (73%) participants have no children; the average tenure is 6 years. In this study, the participants have different education level; most of them have a bachelor degree (188, account 70.7%) or associate Degree (66, account 24.8%). The high level of education among the participants is due to the significant increasing of demands for high educational nurses in top hospitals (Wang, 2015). When assessing the participant representativeness in terms of departments, 114 participants (42.9%) belong to the surgical department and 97 participants (36.5%) belong to the internal Medicine department. It is important to note that in the hospital, surgical department and internal medicine department are the main department and have higher rates of nurses, doctors and patients compared to others. All participants are nurses working in similar organizational structures and responsible for direct care. The results were

analyzed as a whole group rather than separated, which also reduced the problem of reliability. Some demographic information of the participants was described in the table 1.

Table 1, Demographic information of the participants

Variables	General sample
<b>Age (years)</b>	
Mean	28.10
SD	5.31
<b>Marital status:</b>	
Married	64 (48%)*
Not married	69 (52%)*
<b>Children:</b>	
Yes	49 (37%)*
No	84 (63%)*
<b>Seniority:</b>	
Mean	5.98
SD	5.80
<b>Education level:</b>	
Technical secondary school and below	9 (3.4%)
Associate degree	66 (24.8%)
Bachelor degree	188 (70.7%)
Master degree and above	3 (1.1%)
<b>Department :</b>	
Internal medicine	97 (36.5%)
Surgical	114 (42.9%)
Gynecology and pediatrics	14 (5.3%)
Others	41 (15.4%)

Note: \* the marital status, children and seniority have only around 50% validity respondents.

### 3.5 Statistical Analysis

To analyze the data, I used Principal Component Analysis (PCA) and Hierarchical Linear Regression Analysis. All of these procedures were done in SPSS, version 22.

Principal component analysis (PCA) is “a statistical procedure that uses an orthogonal transformation to convert a set of observations of possibly correlated variables into a set of values of linearly uncorrelated variables called principal components” (Springer, 2002: 487). And PCA is mostly used as a tool in exploratory data analysis and for making predictive models (Abdi, 2010). PCA can explain the maximum amount of variance of the original variables with the fewest number of principal components. It is an effective technique to explore models with multiple variables. In this study, principal component analysis was used to explore the group of measurement variables (burnout, perceived organizational support, distributive justice, and turnover intention). PCA uses the Keizer-Meyer-Olkin test to assess the suitability of the sample, and Baetlett’s test to assess the hypothesis that the correlation matrix is an identify matrix.

Hierarchical regression analysis is a way to show whether independent variables can explain variance in a dependent variable. Cohen (1968) proposed multiple regression analysis as a general data analytic strategy. According to this analysis strategy, any combination of categorical and continuous variables can be analyzed within a multiple regression framework simply through the appropriate dummy coding of the categorical variables (Aiken and West, 1991). Interactions can be represented as product terms “through higher order terms in the regression equation” (Aiken and West, 1991: 3). Through this data analytic strategy, I can build several regression models by adding variables to the previous model, later models always include smaller models in previous steps. Moreover, in hierarchical regression analysis, the researcher can determine whether newly added variables show a significant incremental change in R square (the proportion of explained variance in the dependent variable by the model) (Lankau and Scandura, 2002).



## **Chapter4. Data analysis**

### **4.1 Principal component analysis**

The first step in data analysis was to compute exploratory-principle component analysis to indentify the main factor structures of all instruments used in this study. To have a clear understanding of this study, I did the principle component analysis to each instrument separately, and all of data below are presented according to the sequence of the questionnaire.

#### **4.1.1 Perceived organizational support**

The short version of the perceived organizational support instrument includes 16 items. According to Eisenberger (1986), there is only one dimension inside. However, the outcomes of data suggest the existence of two dimensions. This two retained components explain 61.39% of the total variance present on the collecting data. The KMO is 0.921, which is pretty high; Bartlett's test significance level was null, concluding that observed variables are correlated with each other. When looking at the PCA outcomes, it is clear that all positive recording items combine into the first component and the negative recording items are aggregated in a second component.

This problem was reported in Farh, Hackett and Liang (2007), where the authors decided to drop the negatively worded items. In the actual study, I also decided to adopt a similar procedure and drop the negatively worded items. In Farth et al.'s (2007) study, the coefficient alpha for the first component was 0.84. So I used only positively worded items and did the principle component analysis again. Then I got one component and this component explains 61.79% of the total variance present on the collecting data. The KMO is 0.916 and Bartlett's test significance level was null. When I did the reliability analysis of the first component, shows a good internal

consistency -- Cronbach Coefficient alpha is 0.92. So I will use only the first dimension in further steps. The PCA output of perceived organizational support is shows in table 2:

Table 2. Principle component analysis of perceived organizational support

Items	Component
	1
The organization cares my general satisfaction at work.	.808
The organization cares about my opinions.	.794
The organization really cares about my well-being.	.778
Help is available from the organization when I have a problem.	.770
The organization tries to make my job as interesting as possible.	.760
The organization values my contribution to its well-being.	.758
The organization is willing to help me when I need a special favor.	.714
The organization strongly considers my goals and values.	.713
The organization takes pride in my accomplishments at work.	.700
% Total Variance Explained	61.79
Cronbach Coefficient	0.92

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

#### 4.1.2 Burnout inventory

As I mentioned before, in this study I only use the first two author's original dimensions (personal burnout and work related burnout) and follow Yeh et al.'s (2007) procedures, which means to drop two confused items (item 4 and item 13). Finally, in this study, Copenhagen burnout inventory includes 11 items and have two sub-dimensions: personal burnout, work-related burnout (Kristensen, 2005; Yeh et al., 2007). So, two sub-scales were created to reflect each dimension by computing the means between items proposed by the author. The detail items of each dimension are

in the table 3.

Table 3. Copenhagen burnout inventory (Yeh et al., 2007)

<b>Dimension</b>	<b>Based on Yeh's proposal</b>
<b>Personal burnout</b>	1,3,5,6,8,10
<b>Work related burnout</b>	2,9, 14,18,19

However, when I compared the components obtained in the PCA with the dimensions suggested by the Copenhagen Burnout Inventory, there are some differences. This means that, in China, the participants might not understand the dimensions of the scale in the same way as author's proposal. Some items are not relatable enough to be regrouped and, therefore, need to be discarded. This means that after compared author's proposal with principle component analysis outcomes, only 7 items were given and used in next step. Thus, the construct of burnout consists of the following dimensions: personal burnout (item 1, 3, 5, 6) and work related burnout (item 9, 18, 19).

The output shows that KMO coefficient is 0.863, which means a pretty good correlation between the input variables. Bartlett's test shows that the items are correlated with each other (sig<0.001). After taking account the varimax rotation, it shows that this scale includes two components and explains 75.6% of the total variance. Then, in the reliability analysis, these two component show good internal consistency—Cronbach Coefficient alpha is 0.88 and 0.84. The information is shows in the table 4:

Table 4. Principle component analysis of burnout

Items	Component	
	1	2
How often do you feel tired?	,848	
How often are you emotionally exhausted?	,737	
How often do you feel worn out?	,863	
How often do you feel weak and susceptible to illness?	,771	
Does your work frustrate you?		,734
Are you exhausted in the morning at the thought of another day at work?		,892
Do you feel that every working hour is tiring for you?		,828
% Total Variance Explained	41.25	34.39
Cronbach Coefficient	0.88	0.84

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

### 4.1.3 Turnover intention

Turnover intention is used to understand nurse's intention to leave and includes three items joined together in one dimension (Vigoda, 2000). The PCA shows that KMO equals 0.714 and the Bartlett's test has a zero probability value, which means that the input matrix is adequate to do data reduction. Only one component was founded and explains 79.3% of total variance. After reliability statistic, Cronbach's alpha is 0.87, which indicates that the three items are highly internal consistent. The information of the outputs is in the table 5:

Table 5. Principle component analysis of turnover intention

Items	Component
	1
I frequently think of quitting (name of the hospital)	0.91
I am planning to search for a new job during the next 12 months.	0.88
If I have my own way, I will be working for (name of the hospital) one year from now	0.84
% Total Variance Explained	79.3
Cronbach Coefficient	0.87

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

#### 4.1.4 Distributive justice

The measure of distributive justice has only one dimension with three items. The KMO is 0.62 and Bartlett's test presents a null probability value. Moreover, only one component was founded and explains 76.2% of total variance. The reliability analysis shows that the Cronbach's alpha is 0.84. It means this component has a high internal consistency. The full information is in the table 6:

Table 6. Principle component analysis of distributive justice

Items	Component
	1
Overall, the work load of my colleagues and I is quite fair.	0.93
I think that the level of pay of my colleagues and I is fair.	0.88
Overall, the rewards my colleagues and I receive here are quite fair.	0.76
% Total Variance Explained	76.2
Cronbach Coefficient	0.84

Note: Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

## 4.2 Correlation analysis

After the principle component analysis, I computed the means, standard deviation, and correlations among the study variables. Because working in a particular department may affect turnover intentions, dummy variables were created for the following department groups: surgical, gynecology and pediatrics, and other departments. To control for any differences in turnover intentions by education level, dummy variables were also created for the following education groups: associate degree, bachelor degree and master degree.

The output is in the table 7. The bivariate results indicate that age ( $r=-0.19$ ,  $p<0.01$ ), have child ( $r=-0.15$ ,  $p<0.05$ ) and seniority ( $r=-0.16$ ,  $p<0.01$ ) has a negative association with turnover intention, which corroborate Maslach's (2001) findings. Surgical department is also negatively related with nurse's turnover intention ( $r=-0.13$ ,  $p<0.05$ ).

Turnover intentions correlate positively with personal burnout and work-related burnout ( $r=0.51$ ,  $p<0.01$ ;  $r=0.59$ ,  $P<0.01$ , respectively), and negatively with organizational support and distributive justice ( $r=-0.48$ ,  $p<0.01$ ;  $r=-0.32$ ,  $p<0.01$ , respectively). Other independent variables have no significant correlations with turnover. Table 7 also indicates a positive and strong correlation between personal and work-related burnout ( $r=0.63$ ,  $p=0.01$ ), which was already reported in Fong's (2014) study. Organizational support correlates positively with distributive justice ( $r=0.46$ ,  $p<0.01$ ), but negatively with personal burnout ( $r=-0.32$ ,  $p<0.01$ ) and work-related burnout ( $r=-0.36$ ,  $p<0.01$ ). Finally, distributive justice correlates inversely with personal burnout ( $r=-0.25$ ,  $p<0.01$ ) and work-related burnout ( $r=-0.16$ ,  $p<0.01$ ).

Table 7. Descriptive statistics, Cronbach's alpha and bivariate correlations with all study variables

Variable	Mean	S.D	1.	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Age	28.10	5.31														
2. Surgical <sup>a</sup>			.01													
3. Gynecology and pediatrics <sup>a</sup>			-.06	-.20**												
4. Other departments <sup>a</sup>			-.02	-.37**	-.10											
5. Associate degree <sup>b</sup>			-.11	-.02	.10	.09										
6. Bachelor degree <sup>b</sup>			.14*	.07	-.11	-.05	-.89**									
7. Master and above <sup>b</sup>			-.03	-.02	-.03	-.05	-.06	-.17**								
8. Organizational support	3.65	0.87	.07	.06	-.03	-.01	-.01	-.04	.09	(.92)						
9. Distributive justice	3.59	1.09	.01	-.07	.01	.08	.04	-.05	.04	.46**	(.84)					
10. Personal burnout	4.03	0.85	.07	.05	-.04	-.02	.01	.01	-.04	-.32**	-.25**	(.88)				
11. Work related burnout	3.77	0.82	-.10	-.08	.13*	.08	.05	-.06	.04	-.36**	-.16**	.63**	(.84)			
12. Turnover intention	3.36	1.21	-.19**	-.13*	-.01	.01	.03	-.05	-.05	-.48**	-.32**	.51**	.59**	(.87)		
13. Marital status			.59**	.04	.11	-.08	-.04	.05	-.10	.12	.06	.04	-.06	-.01		
14. child			.68**	.09	.10	-.13	-.07	.06	-.08	.17**	.07	.03	-.06	-.15*	.79**	
15. Seniority	5.98	5.80	.96**	.03	-.06	-.03	-.07	.08	-.01	.09	.03	.12	-.05	-.16**	.53**	.64**

Note. N = 266. Internal consistency reliabilities appear in parenthesis along the diagonal.

<sup>a</sup> Reference category is internal medicine; <sup>b</sup> reference category is technical secondary school and below.

\* p < .05, \*\* p < .01(two-tailed)

### 4.3 Hierarchical Linear Regression Analysis

To test the hypotheses, I applied the four-step procedure for testing moderator effects, using the hierarchical linear regression analysis. The results are presented in table 8. The independent variables were mean centered prior to entering the regression analysis, and interaction terms were calculated using mean-centered variables (Aiken and West, 2001). As it was mentioned before, the socio-demographic variables department belonging and education level were transformed into dummy variables.

In the first step, I estimated a baseline model including the control variables (age, department and education level)<sup>1</sup>. To test Hypothesis 1 (which posits that burnout is positively related to turnover intentions), I entered personal burnout and work-related burnout into the equation and estimated a Level 2 model for the dependent variable (Table 8, Model 2). I estimated a set of intercepts-as-outcomes model to test the main effects of the contextual variables (Table 8, Model 3). Personal and work-related burnout were treated as a Level 2 predictors, and the intercept coefficients obtained from Level 2 were regressed onto the two contextual variables. Finally, to test Hypotheses 2 and 3 (which predict that organizational support and distributive justice would buffer the negative relationships between burnout and turnover intentions, respectively), a set of slopes-as-outcomes models was examined to evaluate the cross-level interactions (Table 8, Model 4).

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<sup>1</sup> The variables marital status, children and seniority have many missing values, which means that it was not possible to have complete information of participants. Thus, I decided to run two hierarchical linear regression models: one model with marital status, children and seniority; another model without these three variables. The results were similar in both models. Hence, I decided to present the regression model without these three demographic variables.



Table8. Hierarchical liner regression analysis

Unstandardized Coefficients B				
	Model 1	Model 2	Model 3	Model 4
Level 1				
Age:	-0.044**	-0.040***	-0.035***	-0.036***
Surgical <sup>a</sup>	-0.377*	-0.387**	-0.354**	-0.336**
Gynecology and pediatrics <sup>a</sup>	-0.323	-0.572*	-0.549*	-0.544*
Others <sup>a</sup>	-0.208	-0.321	-0.265	-0.228
Associate degree <sup>b</sup>	-0.198	-0.185	-0.269	-0.393
Bachelor degree <sup>b</sup>	-0.247	-0.202	-0.315	-0.434
Master and above <sup>b</sup>	-0.970	-1.029	-0.846	-1.029
Level 2				
Personal burnout		0.308***	0.235***	0.197**
Work related burnout		0.507***	0.437***	0.428***
Level 3				
Organizational support			-0.259***	-0.253***
Distributive justice			-0.135*	-0.166**
Level 4				
Org.Sup_x_personal burnout				-0.128*
Org.Sup_x_work related burnout				0.173**
Dist.Justice_x_personal burnout				0.229***
Dist.Justice_x_work related burnout				-0.193**
R Square	0.063**	0.436***	0.504***	0.534***
Adjusted R Square	0.038**	0.416***	0.482***	0.506***
F-value	2.497	21.972	23.451	19.086
△change in R Square		0.373	0.068	0.03

Note. N = 266.

<sup>a</sup> Reference category is internal medicine; <sup>b</sup> reference category is technical secondary school and below.

\* $p \leq 0.05$ , \*\* $p \leq 0.01$ , \*\*\*  $p \leq 0.001$

*Control variables.* The table 8 shows 6.3% of variability in nurse's turnover intention can be accounted for by social demographic variables (age, department and education level) and the first model is significant ( $R^2=0.063$ ,  $p=0.02$ ). In the first model, age significant but negatively influence nurse's turnover intention ( $\beta=-0.044$ ,  $p \leq 0.01$ ). In

addition, surgical department is also significant but negatively influence nurse's turnover intention ( $\beta=-0.377$ ,  $p<0.05$ ) by comparison with the internal medicine department.

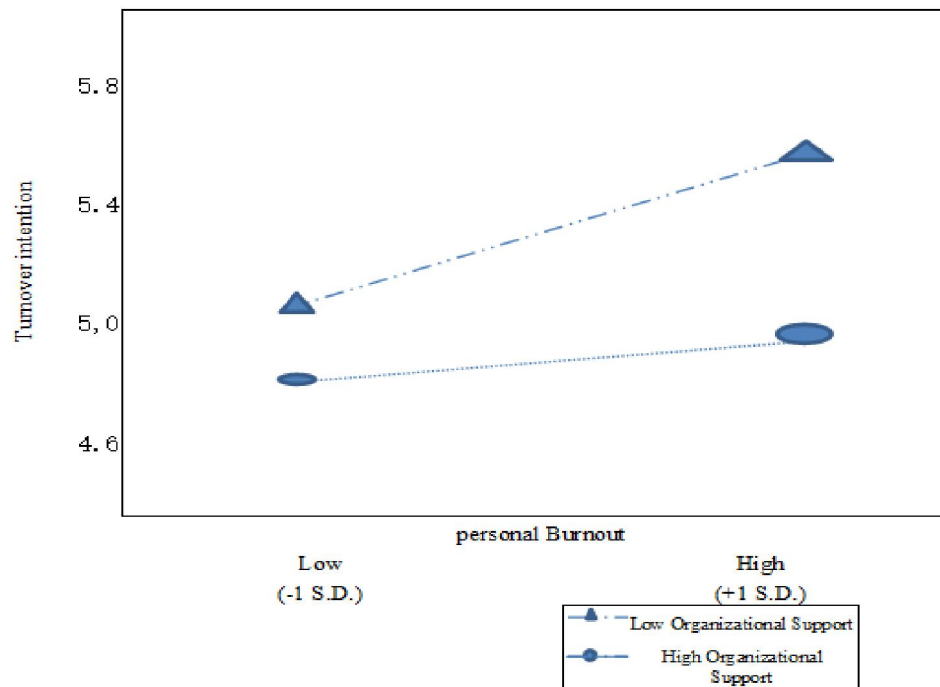
*Individual-level predictors.* In the first hypothesis, I posit that burnout is positively related to nurse's turnover intention. Burnout includes two dimensions: personal burnout and work related burnout. So in the first hypothesis, I have Hypothesis 1a and 1b. Thus, I investigate personal burnout and work related burnout, and these predictions are assessed in Model 2, which allows us to test these hypotheses. In Hypothesis 1a, I suggest that in China, personal burnout is positively related to nurse's turnover intention. The results indicate that personal burnout is a significant predictor of nurse's turnover intention ( $\beta=0.308$ ,  $p<0.01$ ), so Hypothesis 1a is supported. In Hypothesis 1b, I posit that in China, work related burnout is positively related to nurse's turnover intention. Consistent with Hypothesis 1b, the results indicate that work-related burnout has a positive and significant parameter estimate ( $\beta=0.507$ ,  $p<0.01$ ). In summary, there is support for Hypothesis 1a and 1b, thus, hypothesis 1 is totally supported. In Model 2, when I added personal burnout and work related burnout, the  $R^2$  changed to 0.436 ( $p=0.00$ ). It means 37.3% predictive power was added to the model by the addition of these variables.

*Contextual variables.* Organizational support and distributive justice account for 6.8% of the variability in turnover intentions after the intercept coefficients obtained from Level 2 were regressed onto the two contextual variables. So, the data yield main effects for each contextual variable: Organizational support ( $\beta=0.259$ ,  $p<0.01$ ) and distributive justice ( $\beta=0.135$ ,  $p<0.05$ ) were significantly and positively related to turnover intentions.

*Cross-level interactions.* Because the personal and work-related burnout were significant Level 2 predictors and the two contextual variables were significant Level 3 predictors, I proceeded to test the cross-level interactions. The four cross-level

interactions were added in Model 4 and the  $R^2$  increased 3% ( $R^2=0.534$ ,  $p=0.00$ ). In Hypothesis 2, it was predicted that in China, perceived organizational support moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher perceived organizational support than among those with lower perceived organizational support. As depicted in Model 4, results indicate that organizational support does moderate the effects of personal burnout on turnover intentions. Consistent with Hypothesis 2a, the Level 3 predictor for the effects of organizational support on the slope of personal burnout was significant and negative for turnover intentions ( $\beta=-0.128$ ,  $p<0.05$ ). Following Aiken and West (2001), figure 1 presents this moderating effect in which high and low levels are depicted as one standard deviation above and below the mean, respectively. The simple slope representing the association between personal burnout and turnover was positive and significant at one standard deviation above the mean of organizational support ( $\beta=0.09$ ,  $t=1.65$ ,  $p < 0.05$ ), positive and significant at one standard deviation below the mean of organizational support ( $\beta=0.31$ ,  $t = 5.66$ ,  $p<0.001$ ). In Hypothesis 2b, it was predicted that in China, perceived organizational support moderates the effect of nurse's work-related burnout on turnover intention such that the negative relationship between work-related burnout and turnover intention is weaker among employees with higher perceived organizational support than among those with lower perceived organizational support. Contrary to our prediction, the Level 3 predictor for the effects of organizational support on the slope of work-related burnout was significant but positive for turnover intentions ( $\beta=0.173$ ,  $p<0.01$ ). This means that there is an interaction but it goes in the opposite direction from the hypothesis 2b. So I have to reject hypothesis 2b. Thus, hypothesis 2 is partially supported.

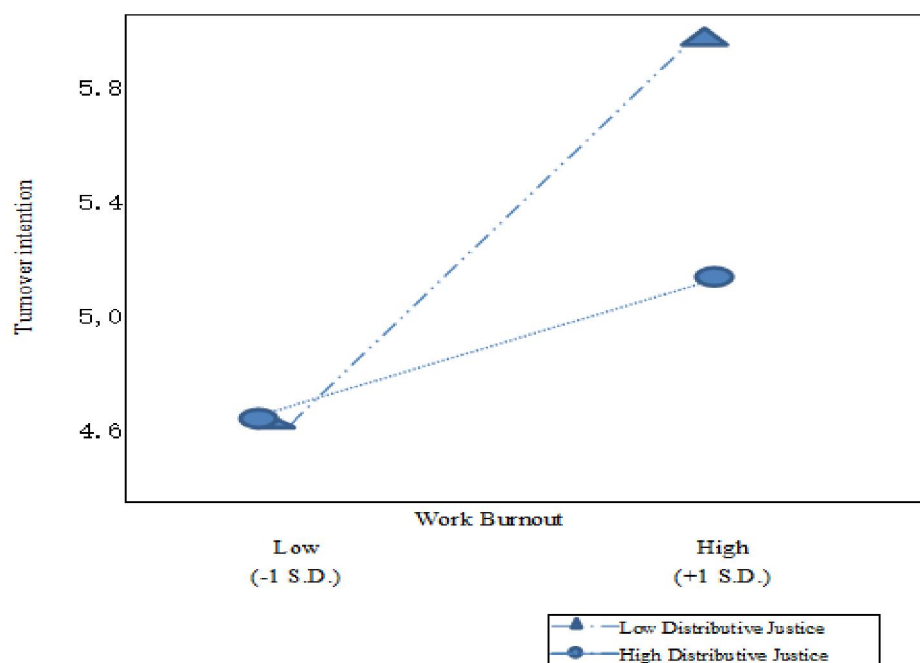
Figure 1. Moderating effect of perceived organizational support on the relationship between personal burnout and turnover intention



Hypothesis 3 predicts that in China, distributive justice would buffer the negative relationship between nurse's burnout and turnover intention, such that the negative relationship between burnout and turnover intention is weaker among employee with higher perceived distributive justice than among those with lower perceived distributive justice. In Model 4, I find that the cross-level interaction term of distributive justice in the relationship between personal burnout and turnover intention is positive and significant ( $\beta=0.229$ ,  $p<0.01$ ). This outcome means that distributive justice moderates the effect of nurse's personal burnout on turnover intention, but it goes in the opposite direction of the former hypothesis 3a. Thus, hypothesis 3a is not supported. However, results are consistent with hypothesis 3b: the coefficient for distributive justice as a Level 3 predictor of the slope of work-related burnout is significant and negative when turnover intentions is the dependent variable ( $\beta=-0.193$ ,  $p<0.01$ ). Following Aiken and West (2001), figure 2 presents this moderating effect in which high and low levels are depicted as one standard deviation above and below

the mean, respectively. The simple slope representing the association between work-related burnout and turnover was positive and significant at one standard deviation above the mean of distributive justice ( $\beta = 0.22$ ,  $t = 1.92$ ,  $p < 0.05$ ), positive and significant at one standard deviation below the mean of distributive justice ( $\beta = 0.64$ ,  $t = 6.85$ ,  $p < 0.001$ ) (See Figure 2). It means that distributive justice moderates the effect of nurse's work-related burnout on turnover intention such that the negative relationship between work-related burnout and turnover intention is weaker among employee with higher perceived distributive justice than among those with lower perceived distributive justice. In summary, hypothesis 3 is partially supported.

Figure2. Moderating effect of distributive justice on the relationship between work-related burnout and turnover intention



## **Chapter5. Discussion**

Based on the results of data analysis, all hypothesis tested in this study were conclusive to this research. The hypothesis that states that personal burnout and work related burnout positively related to nurse's turnover intention were supported (H1a, H1b). The hypothesis which predicts that perceived organizational support moderates the relationship between personal burnout and turnover intention was supported and the hypothesis which predicts that distributive justice moderates the relationship between work-related burnout and turnover intention were also supported (H2a, H3b), whereas other hypothesis were not supported (H2b, H3a).

### **Social demographic characteristics**

A large number of studies that focus on the relationship between turnover rate and age indicated a consistent pattern of an inverse relationship in the health care facility staff turnover intention. In 1994, Gray and Philips showed that turnover rate were significantly higher among younger nurses than older age nurses (Gray, Philips, 1994). Mobley also indicated that "age-tenure, a composite of the standardized age and tenure variables" was inversely connected with healthcare staff's turnover intention (Mobley, 1982).

In this study, the finding corroborates this trend. As it was mentioned before, in China, older nurses have higher job tenure. It is likely that older nurses have less workload than younger nurses and their accumulated experiences allows them to better or quickly solve all kinds of problems, such as high working pressure and complicated interpersonal relationship.

When talking about the relationship between different department and nurse's turnover intention, the findings show that the surgical department is a more important

predictor of nurse's turnover intention than other departments. In other words, the surgical department is associated with decreased turnover intention. Actually, there is lack of research about the comparison of nurse's turnover intention between different departments. Hart and Moore (1989) explained that nurse professionals were not significantly related to nurse stability. However, in this study, I found that those nurses who belong to surgical department have a lower turnover intention than nurses working in the internal medicine department. This may due to the higher salary, better benefits and respects in the surgical department. In China, nurses in hospitals work with heavy workloads, but they are less likely to be respected by patients. However, in surgical department this situation is not so stressful than in other departments. The professional characteristics in the surgical department demand higher skilled nurses and the staff receives support to better coordinate their work. Thus, nurses in the surgical department may have a lower turnover intention than in other departments.

### **Burnout positively affect turnover intention**

Based on the result of Hierarchical liner analysis, personal burnout and work-related burnout are positively and significantly related to nurse's turnover intention in China. These findings corroborate Aiken et al.'s (2002) research, which explained that nurses experiencing high levels of burnout intend to leave their current positions. In a study of the United States, nurses who experienced high level of burnout intend to leave their current positions within a year (Aiken et al., 2002). Moreover, this finding is also reported in Maslah's (2001) research, which states that burnout is associated with several forms of job withdrawal, such as intention to leave and actual turnover. The analysis suggests that nurses' personal burnout and work related burnout are very important factors influencing nurse's intention to leave their jobs. These outcomes are very relevant because of the serious shortage of nurses in China. It has been reported that the ratio of nurses to the population to be served in the hospital is 1.85: 1000 in China (Chinese Ministry of Health reported, 2013), which is significantly lower ration than in other countries. Moreover, due to the nursing shortage, nurses in China tend to

have a heavier workload and tend to provide health care for higher number of people in the population, such as chronic disease management, health education and psychological consultation (Gong et al., 2013). Therefore, nurses are easy to experience burnout and tend to leave their job.

## **5.1 Moderator effects**

### **Perceived organizational support**

The second hypothesis states that in China, perceived organizational support moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker among employees with higher perceived organizational support than among those with lower perceived organizational support. The result indicated there is a significant interaction effect between perceived organizational support and personal burnout on turnover intention. However, the interaction effect between perceived organizational support and work-related burnout on turnover intention was not found.

In the actual study, perceived organizational support was regarded by the employees as an opinion about the extent to which the organization values their contributions and cares about their well-being based on their perceptions of how readily the organization will reward their job performance and satisfy their socio- emotional needs (Rhoades & Eisenberger, 2002). As Rhoades' (2001) study, perceived organizational support is an important contributor to emotional commitment and retentions intentions. And it significantly decreases employee's general status of burnout and turnover behaviors (Eisenberger et al., 2002). Individuals who perceive a high level of organizational support usually have a positive professional attitude and job involvement, thus reduce their burnout. In other words, employees who experience high levels of perceived organizational support would stand to lose not only their salary and benefits, but also job security, developmental experiences,



participation in decision making and other comforts engendered through their job and organization (Dawley et al., 2010). In a study of Italian nurses, Bobbio et al. (2012) found that perceived organizational support reduced hospital nurses' burnout, such that the more organizational support the nurses perceived the less burnout they felt. Moreover, another study among nurses in dental clinics reported that increased perceived organizational support was a significant protective factor against burnout (Zhang et al., 2013).

However, the moderator effect of perceived organizational support on the relationship between burnout and turnover intention has not been examined until now. In this study, it was found that perceived organizational support was a moderating factor on the association between burnout and turnover intention. The higher organizational support nurses felt, the weaker relationship would be between their burnout and turnover intention. This can be explained by the conservation of resources theory (Hobfoll, 1989), which indicated the nature of stress and the niche between employee's physical and social environmental demands and their perception to obtain value and satisfy those demands. The conservation of resources theory indicated that "objects, personal characteristics, conditions or energies that are valued in their own right or that are valued because they act as conduits to the achievement or protection of valued resources" (Hobfoll, 2001: 339). That is to say, employees strive to obtain, maintain and create resources that they value (Hobfoll, 1989). In the work context, the stress caused by one of these paths will lead employees to burnout over time, especially when the rate that work demands consume staff resources is greater than the rate with which resources are obtained (Freedy & Hobfoll, 1994). Therefore, stress could be the result of a threat to resources (such as when resources are threatened with loss or actually loss). On the one hand, demands are more likely to trigger strains; on the other hand, resources help employee cope with stress and thus reduce the likelihood of burnout (Hobfoll & Freedy, 1993). Moreover, Hobfoll (1988) indicated that social support can broaden one's lack of available resources and replace or reinforce other insufficient resources. Among those social supports, work-related

social resources such as “support from coworkers” and “understanding from employer” are similar to perceived organizational support. Specifically, work-related support may be more negatively related to exhaustion (Ray, 1987). First, if employee receives support from colleagues or supervisor, it is probably that the appraisal of work demands would be more favorable than if they have not perceived such support (Lazarus & Folkman, 1984). In addition, colleagues and supervisors are in a position to offer suggestions that could lead to reductions in demands at work or even directly reduce demands at work, such as taking over tasks for other employees (Ray & Miller, 1994).

Personal burnout is “the degree of physical and psychological fatigue and exhaustion experienced by the person”, attribute to health problems or family demands (Kristensen et al., 2005: 197). In that situation, people may be unable to solve the problem of their family (such as tasks at home, relationship with children or partner), which means that they may be lost or threatened to lose their resources. Therefore, support from the organization would encourage emotionally the employee. Consequently, the employee would be less likely to withdraw from the job. In addition, such support would remind the employee of how good their organization is. In other words, they tend to be loyal to their organization and have a positive attitude and job involvement, thus they are more likely to stay in their organization.

However, this moderator affects goes in the opposite direction regarding the degree of fatigue and exhaustion attributed work (work related burnout). This finding is different from what I expected. One possible explanation to this result may be connected with the Chinese business culture.

### **Distributive justice**

The third hypothesis of this study states that in China, distributive justice moderates the effect of nurse’s burnout on turnover intention such that the negative relationship

between burnout and turnover intention is weaker among employee with higher perceptions of distributive justice than among those with lower perceptions of distributive justice.

According to Greenberg's (1997) study, distributive justice can create either feelings of goodwill or unfairness in the workplace, which can positively or negatively influenced employee's feeling as well. If employees feel that they were experienced unfairness, they will tend to quit (Folger and Cropanzano, 1998). Maslach (2001) also indicated that the greater mismatch between the person and the reward, the greater the likelihood of burnout. When employee are not receiving the benefits commensurate with their achievements and when one's hard work is ignored or not appreciated by others, then people easily experience feelings of burnout. Furthermore, when there is inequity of workload or pay, when there is cheating, or when evaluations and promotions are handled inappropriately, these situations can exacerbate burnout.

It is easy to understand, for one thing, the experience of unfair treatment is emotionally upsetting and exhausting; for another thing, unfairness fuels a deep sense of cynicism about the workplace (Maslach, 2001). Distributions are fair to the extent that staffs perceive their rewards to be appropriately matched to their contributions (Ambrose & Arnaud, 2005). Griffeth et al. (2001) reported that distributive justice is negatively related to turnover intention. Based on equity theory, employees make equity assessments by comparing their outcomes (such as their payment raises) and inputs (like effort exerted) to the outcomes and inputs of others employees (Adams, 1963). When employees perceive their outcomes to be unfair relative to referent others, the perceived inequity will arise. This perceived inequity creates tension within employees and causes them to act to restore the perceived inequity. Then employees tend to restore inequity by altering behaviors or altering cognitions. For instance, staffs may withdraw from their position or think about withdrawing from their position. Kacmar et al. (1999) indicated that this withdrawal include actual job withdrawal and psychological job withdrawal. Compared with actual job withdrawal,

psychological job withdrawal (such as: thinking about resigning) may be a more viable option. Sometimes there is limited external job mobility and actual job withdrawal may not be immediately possible (Kacmar, Bozeman, Carlson & Anthony, 1999). That is to say, when employees feel that they are receiving unfair outcomes in their present organization, they are unlikely to remain permanently in there and will contemplate seeking fairer outcomes elsewhere. Moreover, social exchange theorists like Blau (1964) and Gouldner (1960), reported that employees tend to feel obligated to reciprocate valued outcomes received. Thus, when employees feel their organization providing them with fair outcomes, they are likely to feel obligated to reciprocate by remaining loyal and continuing to work in that organization. In contrast, employees who perceive unfair outcomes from their organization tend to view this as a violation of their psychological contract, which can undermine employees' faith in the benefits of staying in the exchange relationship, causing them to consider ending it by leaving (Robinson & Rousseau, 1994).

Moreover, there is also a meta-analysis research showed that distributive justice is negatively related to burnout and turnover intention (Griffeth et al., 2000) and has the strongest effects on job withdrawal relative to other type of justice dimensions (Colquitt et al., 2001). Brashear et al.'s (2005) study of 240 salespeople found that distributive justice is a direct predictor of turnover intention. The outcome of this study is similar to the prior research. Although much is now known about the effects of the distributive justice on employee withdrawal behaviors, less is known about how distributive justice would influence the association between burnout and turnover intention (Cohen-Charash & Spector, 2001). In this study, I have some new findings. The influence of distributive justice in the relationship between work-related burnout and turnover intention is negative and significant. The finding shows that a sense of justice in the organization weakens the work-related burnout – turnover intention relationship. It means that if nurses feel tired of their work, being treated fairly and getting a fair income will mitigate their degree of work related burnout. In other words, when nurses perceived that they receive fair outcomes, their burnout is better

tolerated and such situation is more likely to be translated into retain cognitions and less feelings of quitting the actual job.

However, the outcome shows that distributive justice opposite moderates in the opposite direction of the effect of nurse's personal burnout on turnover intention. As I mentioned before, personal burnout refer to the fatigue attributed to non work factors, like health problems or family demands. The data give information that nurses who experienced personal burnout recognized clearly that their fatigues are not associating with work factors. They tend to see personal burnout as their personal responsibility and it is unreasonable to blame organization for such outcomes. Although they feel that the financial resource received in their organization are fair, it cannot moderate the negative effect of personal burnout on turnover intention. Thus, the sense of fairness in workplace is not important to explain the relationship between personal burnout and turnover.

## **Chapter 6. Conclusion**

The shortage of nurses has attracted sustained attention from the government and researchers. Based on the Chinese Nursing Association's report in 2012, China faced at least one million nurses shortage. Previous researches, however, have focused primarily on the isolated factors that may influence nurse's turnover intention (Lyu L, et al, 2016). There is a gap of an integrated analysis of nurse's turnover intention in China. To address this gap, I suggested a theoretical model to explore the relationship between burnout and turnover intention. I hypothesized that burnout is positively related to nurse's turnover intention in China. Next, I added two moderator factors (perceived organizational support and distributive justice) to this theoretical model. I proposed that, in China, perceived organizational support moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker when an employee has a higher perception of organizational support. Moreover, I also suggested that, in China, distributive justice moderates the effect of nurse's burnout on turnover intention such that the negative relationship between burnout and turnover intention is weaker when an employee has a higher perception of distributive justice.

### **6.1 Theoretical implications**

Early researches into nurse's burnout- turnover intention relationship were focus on the antecedents or outcomes and found mixed results. For example, Maslach (2001) found that the mismatch of workload, rewards and fairness lead to burnout and have various outcomes. However, there is a lack of the integrated analysis of nurse burnout and turnover intention in China. Therefore, this study provides a better understand of the moderator factors which influence the relationship between nurse burnout and turnover intention in China. Especially, it was found that perceived organizational

support was a moderating factor on the association between personal burnout and turnover intention. The higher organizational support nurses felt, the weaker relationship would be between their personal burnout and turnover intention. Moreover, distributive justice moderates the relationship between work-related burnout and turnover intention. This means that a sense of justice outcome in the organization weakens the work-related burnout – turnover intention relationship, such that if nurses feel tired of their work, being treated fairly and getting a fair income will mitigate their degree of work related burnout.

## **6.2 Managerial implications**

The result of this study can contribute to the healthcare industry, especially for the nursing management to keep nursing workforce. The primary message from this study is that burnout plays a pivotal role in nurse's turnover intention in China and burnout shows to be higher in younger nurses. In addition, perceived organizational support shows a significant contribution to moderate the effect of nurse's personal burnout on turnover intention and distributive justice have a moderator effect of nurse's work-related burnout on turnover. It means that increasing the frequency of supportive work interaction and establishes closeness of personal friendship at work can mitigate the relationship between nurse's burnout and turnover intention. So I suggest nursing supervisor be careful with young nurse's feeling during the work and encourage them to voice their feelings. Moreover, supervisor can increase interactions in daily routines, staff meetings and common activities. I suggest that the future healthcare manager must provide better and more specific support and interventions for nurse's burnout (Lin et al., 2009). The leaders of healthcare industry, especially nursing leaders, should promote a nursing care program that increases their perceived organizational support and have a fair distributive policy (salary, allowances and so on) - for example, offering nurse support and bereavement groups, providing pastoral care for staff, patients and families.

### **6.3 Limitations and future research**

Several limitations should be noted with regarding to this study. First, the participants of this study are all women, since woman is the major content of nursing staff. This prevented further analysis on the scale's measurement in variance across the gender, which is an important measurement property for valid group comparison. It is worth to study the influence of gender on the nurse's turnover intention because more and more male nurses appear in hospital now. The potential for sampling bias means that the results may not be generalizable to other employees.

Second, on the literature, Copenhagen Burnout Inventory has some problems. For one thing, the dimension-client related burnout is not correlated with other two dimensions (Yeh et al., 2007). There are also some items measuring almost the same ideas and some items are confused to participants. For example, item 4 (exhausted at the starting of one day), 9 (work frustrate) and 13 (tired working hours) seem to reflect a specific frustration and disgusted with work, whereas other items refer to exhaustion in a more general sense (Fong et al., 2014). Therefore, I followed Yeh et al.'s (2007) procedures and delete item 4 and item 13. Future studies should also be developed with the CBI-C in a big sample size to get a more powerful statistical outcome.

Moreover, the self-report nature of the measurement tools may have introduced bias, and some objective measures should be introduced in future studies, like real turnover rate. There is also a problem of social desirability, since people tend to choose Likert points that are more positive, for example, participants tend to choose positive answers in organizational support scale, even though their answers do not show the reality. Thus, some items should be written in negative sentences and be more specific. Then, the data showed that the moderator variable perceived organizational support strengthens the relationship between work related burnout and turnover intention; the



distributive justice strengthens the personal burnout-turnover intentions relationship. This need to be future confirmed or rejected. Finally, the low response rates in important demographic variables (marital status, children and seniority) result in an incomplete information of participants. Further study need to be conducted and include such variables.

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## Annexes

### Annex A-Questionnaire

#### 1. Questionnaire English vision

##### ISCTE Business school, burnout and intention to leave Survey

This questionnaire is a part of an international academic research project. It focuses on the impact of burnout and organizational support on nurse turnover intention. It will take approximately 10 minutes of your time. Please answer all questions, because only that way you will contribute to this research. Thanks a lot for your help!

Age (in years): \_\_\_\_\_

Marriage: ☐ married ☐ not married

Children: ☐ Yes ☐ No

Education level: ☐ Technical secondary school and below

☐ Associate degree

☐ Bachelor degree

☐ Master and above

Seniority (in years): \_\_\_\_\_

Department: ☐ internal medicine ☐ surgical

☐ Gynecology and paediatrics ☐ others

Please use the following scale: 1(Totally disagree), 2(Disagree), 3(Somewhat disagree), 4(Somewhat agree), 5(Agree), 6(Totally agree) to indicate your level of agreement or disagreement with each statement.

Listed below are the descriptive statements about the hospital. For each statement, I would like you to indicate the degree of agreement with the organization behavior described.

1. The organization values my contribution to its well-being.	1	2	3	4	5	6
2. If the organization could hire someone to replace me at a lower salary it would do so.(R)	1	2	3	4	5	6
3. The organization fails to appreciate any extra effort from me.(R)	1	2	3	4	5	6
4. The organization strongly considers my goals and values.	1	2	3	4	5	6
5. The organization would ignore any complaint from me. (R)	1	2	3	4	5	6
6. The organization disregards my best interests when it makes decisions that affect me. (R)	1	2	3	4	5	6
7. Help is available from the organization when I have a	1	2	3	4	5	6

problem.						
8. The organization really cares about my well-being.	1	2	3	4	5	6
9. Even if I did the best job possible, the organization would fail to notice.(R)	1	2	3	4	5	6
10. The organization is willing to help me when I need a special favor.	1	2	3	4	5	6
11. The organization cares my general satisfaction at work.	1	2	3	4	5	6
12. If given opportunity, the organization would take advantage of me. (R)	1	2	3	4	5	6
13. The organization shows very little concern for me. (R)	1	2	3	4	5	6
14. The organization cares about my opinions.	1	2	3	4	5	6
15. The organization takes pride in my accomplishments at work.	1	2	3	4	5	6
16. The organization tries to make my job as interesting as possible.	1	2	3	4	5	6

In this section, please indicate by checking the appropriate box the extent to how often do you face each of the following statements at the workplace. Please use the following scale: 1(Never), 2(Vary Rarely), 3(Rarely), 4(Occasionally), 5(Very Frequently), 6(Always)

1. How often do you feel tired?	1	2	3	4	5	6
2. Do you feel burnt out because of your work?	1	2	3	4	5	6
3. How often are you emotionally exhausted?	1	2	3	4	5	6
4. Do you feel worn out at the end of the working day?	1	2	3	4	5	6
5. How often do you feel worn out?	1	2	3	4	5	6
6. How often do you feel weak and susceptible to illness?	1	2	3	4	5	6
7. Do you find it hard to work with clients?	1	2	3	4	5	6
8. How often are you physically exhausted?	1	2	3	4	5	6
9. Does your work frustrate you?	1	2	3	4	5	6
10. How often do you think:"I can't take it anymore?"	1	2	3	4	5	6
11. Are you tired of working with clients?	1	2	3	4	5	6
12. Do you sometimes wonder how long you will be able to continue working with clients	1	2	3	4	5	6
13. Do you have enough energy for family and friends during leisure time?	1	2	3	4	5	6
14. Is your work emotionally exhausting?	1	2	3	4	5	6



15. Does it drain your energy to work with clients?	1	2	3	4	5	6
16. Do you find it frustrating to work with clients?	1	2	3	4	5	6
17. Do you feel that you give more than you get back when you work with clients?	1	2	3	4	5	6
18. Are you exhausted in the morning at the thought of another day at work?	1	2	3	4	5	6
19. Do you feel that every working hour is tiring for you?	1	2	3	4	5	6

Listed below are the descriptive statements about you. For each statement, I would like you to indicate the degree of possibility with the behavior described. Please use the following scale: 1(Totally disagree), 2(Disagree), 3(Somewhat disagree), 4(Somewhat agree), 5(Agree), 6(Totally agree)

1. I frequently think of quitting (name of the company)	1	2	3	4	5	6
2. I am planning to search for a new job during the next 12 months.	1	2	3	4	5	6
3. If I have my own way, I will be working for (name of the hospital) one year from now	1	2	3	4	5	6
4. Overall, the work load of my colleagues and I is quite fair	1	2	3	4	5	6
5. I think that the level of pay of my colleagues and I is fair	1	2	3	4	5	6
6. Overall, the rewards my colleagues and I receive here are quite fair.	1	2	3	4	5	6

## 2. Questionnaire Chinese version:

### 护士职业倦怠和离职率调查

此问卷是国际学术研究项目的一部分，主要关注职业倦怠和组织支持对护士离职意向的影响。问卷可能会花费您大约十分钟的时间。为了保证调查结果的准确性，请您如实回答所有问题，我们会对问卷内容进行保密，您的回答对于我们得出正确结论很重要，感谢您的支持和配合！

年龄: \_\_\_\_\_

婚姻: ☐ 未婚 ☐ 已婚

孩子: ☐ 有孩子 ☐ 没有孩子

学历: ☐ 中专及以下 ☐ 大专 ☐ 本科 ☐ 硕士及以上

工作年资: \_\_\_\_\_

科室: ☐ 内科 ☐ 外科 ☐ 妇科和儿科 ☐ 其他

在这一部分，请根据您的自身的感受和体会，判断它们在您所在医院或者您的身上发生的情况，并在合适的方框里画√。使用 1（极不同意），2（很不同意），3（稍不同意），4（稍同意），5（很同意），6（极同意）

1. 组织珍视我的贡献	1	2	3	4	5	6
2. 假如能以更低的工资雇佣到别人来替代我，组织会这样做	1	2	3	4	5	6
3. 对我的额外奉献，组织并不欣赏	1	2	3	4	5	6
4. 组织非常重视我的个人目标和价值	1	2	3	4	5	6
5. 对我的抱怨，组织视而不见	1	2	3	4	5	6
6. 组织做出影响到我的决策时，并不关心我的兴趣	1	2	3	4	5	6
7. 当我有问题时，可以从组织获得帮助	1	2	3	4	5	6
8. 组织的确很关心我的利益	1	2	3	4	5	6
9. 我的工作干得再好，组织也不会注意到	1	2	3	4	5	6
10. 当我有特殊的需要，组织愿意帮助	1	2	3	4	5	6
11. 组织关心我的工作满意感	1	2	3	4	5	6
12. 只要有机会，组织就会利用我	1	2	3	4	5	6
13. 组织表现出来对我的关心很少	1	2	3	4	5	6
14. 组织重视我的观点	1	2	3	4	5	6
15. 组织对我的成就会给予表扬	1	2	3	4	5	6
16. 组织尽力使我的工作变得有趣.	1	2	3	4	5	6

请根据下面的陈述，判断它们在您身上发生的频率，并在合适的方框里画√。使用 1（从来没有），2（非常少）3（不常），4（偶尔），5（非常频繁），6（总是）

20. 你多久一次会有累的感觉？	1	2	3	4	5	6
21. 你会因为你的工作觉得身心俱疲吗？	1	2	3	4	5	6
22. 你多久一次会有情绪耗竭的感觉？	1	2	3	4	5	6
23. 结束一天工作后你会觉得精疲力竭吗？	1	2	3	4	5	6
24. 你多久一次会有精疲力竭的感觉？	1	2	3	4	5	6
25. 你多久一次会有虚弱、快要生病了的感觉？	1	2	3	4	5	6
26. 你会觉得与病人一起工作很难吗？	1	2	3	4	5	6
27. 早上起床后想到一天的工作会让你觉得疲惫吗？	1	2	3	4	5	6
28. 你的工作让你觉得挫败吗？	1	2	3	4	5	6
29. 你多久一次会有：“我不能再忍受了”的感觉？	1	2	3	4	5	6
30. 你多久一次会有体力透支的感觉？	1	2	3	4	5	6
31. 你有想过你还可以继续跟病人一起工作多久吗？	1	2	3	4	5	6

32. 在休息的时间，你有足够的精力给家人或者朋友吗？	1	2	3	4	5	6
33. 你的工作会让人情绪耗竭吗？	1	2	3	4	5	6
34. 与病人一起工作会消耗你的能量吗？	1	2	3	4	5	6
35. 你会觉得与病人一起工作是令人沮丧的吗？	1	2	3	4	5	6
36. 当你与病人一起工作的时候，你会觉得付出比回报多吗？	1	2	3	4	5	6
37. 你厌倦了与病人一起工作吗？	1	2	3	4	5	6
38. 你会觉得每一个小时的工作都让你疲惫吗？	1	2	3	4	5	6

请根据下面的陈述，判断它们在您身上发生的可能性或者您的个人感受，并在合适的方框里画√。使用 1（极不同意），2（很不同意），3（稍不同意），4（稍同意），5（很同意），6（极同意）

1.我经常想要辞职.	1	2	3	4	5	6
2. 未来的 12 个月，我计划找一份新的工作	1	2	3	4	5	6
3.如果我有办法，我已经在别的医院工作一年了	1	2	3	4	5	6
4. 整体看来，我和我同事的工作量相对公平.	1	2	3	4	5	6
5. 我认为我或我同事的工资水平是公平的.	1	2	3	4	5	6
6. 总体看来，我和我同事的奖金是相对公平的	1	2	3	4	5	6