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Main factors influencing nurse job satisfaction

— A cross-country study

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Department of Business Administration

& Economics

Authors: Wang, Haijuan (Wendy)

Ni, YongPin (Bob)

Xie, BiBo (Yolande)

Tutors: Christer Ekelund

Lisa Källström

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Abstract

Nurse job satisfaction is a hot topic in China because Chinese hospitals are suffering from lower nurse job satisfaction nowadays. The purpose of this dissertation was to investigate the nurses' perception of job satisfaction attributes and how it varies with age and educational level.

A questionnaire was developed to collect necessary data both from China and Sweden. Samples consisted of three regional hospitals in Ningbo China and one in Sweden, 150 and 46 respondents respectively to present Chinese nurses and Swedish nurses.

Results show that both age and educational level are related to nurse job satisfaction. However, age and nurse job satisfaction are U-shaped related, and educational level and nurse job satisfaction are inverted U-shaped related. Second, intrinsic job characteristics are as important as extrinsic job conditions on nurse job satisfaction. Third, age and intrinsic job characteristics are negatively correlated, while age and extrinsic job conditions are not linear related. In addition, intrinsic job characteristics and extrinsic job conditions show the same importance level among different age groups except for the age group over 50. Fourth, educational level does not affect nurse perception of the importance level of both intrinsic job characteristics and extrinsic job conditions. Finally, although Chinese nurses place the same importance level of job satisfaction factors as Swedish nurses do, the level of job satisfaction are quite different between those two groups.

Key words: nurse job satisfaction, intrinsic job characteristics, extrinsic job conditions, China, Sweden

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1 Introduction

In the first chapter, the background of the dissertation is introduced. The research purposes and definitions are discussed. Further, the research questions and limitations are described. Finally, the outline of the dissertation is presented.

1.1 Background

Job satisfaction is an important part of organizational psychology and organizational behavior, which is widely discussed and studied because it aims at the physical and mental well-being of individual employees not only from the angle of organizational psychology, but also, from the angle of organizational management and human resource management, concerns with establishing policies for management to improve employees' job satisfaction and their job-related behavior and, hence, to improve the productivity and profitability of organizations(Cranny, Smith & Stone, 1992). Many studies are based on the assumption that job satisfaction and job competence are interwoven (e.g. Herzberg, Mausner & Snyderman 1993; Krueger, 1996). In other words, people who are satisfied with their jobs tend to perform better.

In recent years, with the rapid development of the economy in China, the general level of people's health care is increasing rapidly. The income level of healthcare workers has been increased and is higher than the average social level. However, job satisfaction among the personnel in the hospital, especially the nurses, still stands in a low level. Recent studies show that nurses often experience psychological-emotional and physical stress at work (Piko, 2006). And they are highly dissatisfied with their jobs, which in turn results in lower morale and seriously affects the quality of healthcare service the customers receive. It has attracted many attentions from both the government and the public. We believe that job satisfaction has a special implication for health care staff, especially nurses, because patients need competent,

enthusiastic nurses on whom they count in hospitals (Krueger, 1996). More efforts have been made to study on the level of nurse's job satisfaction and how to improve nurse's job satisfaction, but the factors influencing nurse job satisfaction has rarely been examined. The reasons may lie in that such kind of topic is too simple or even lack of worth. Yet, we do not think so. In order to improve nurse job satisfaction, the first thing to do is to find out what leads to nurse job satisfaction, rather than to measure the level of job satisfaction. This is the right way to work something out. Our master degree program of Public Administration provides us an opportunity to do deep research in this field.

1.2 Purpose of the dissertation

The purpose of this dissertation is to identify the main factors influencing nurse job satisfaction; to investigate the relationships between age, educational level and nurse job satisfaction; to examine the perception of job satisfaction attributes among nurses due to age, educational level and nationality (China and Sweden). Meanwhile, we try to provide useful information for the hospital managers to motivate nurses and to improve the quality of health care service as well.

1.3 Definitions

When it comes to the definition of job satisfaction, we should point out that it includes both general job satisfaction and satisfaction with specific aspects of work such as work itself, pay and company policies. Locke (1976) defined Job satisfaction as a positive orientation toward ones work or role. In his mind, job satisfaction results from thoughts and feelings. However, some organizational scholars have questioned this view. Schneider, Gunnarson and Wheeler (1992, 53) argue that '*job satisfaction is function of not only what people have but also of what people have the opportunity to have*.'

In this dissertation we defined job satisfaction as a function of situation and personality. It is affected by external conditions and varies from person to person depending on individual characteristics as well. To be simple, the definition of job satisfaction is a general one. That is to say, job satisfaction is the worker's overall attitude towards their jobs. Accordingly, nurse job satisfaction is nurse general attitude towards their work.

1.4 Research questions

- What are the main factors influencing nurse job satisfaction?
- Is age related to nurse job satisfaction, positively or negatively?
- Is educational level related to nurse job satisfaction, positively or negatively?
- How different do different nurse groups view the importance of different factors on job satisfaction?
- How different are main factors influencing nurse job satisfaction between China and Sweden?

1.5 Limitations

First of all, theoretically, any study of people's feelings about their work should include three questions: How can we specify the attitude of any individual toward his job? What affects their attitudes? What are the consequences of their attitudes? (Herzberg et al, 1993) This paper is about nurses at work. More precisely, it is about nurse attitude towards their jobs. Thus, there are also three questions about nurse job satisfaction. That is, How to measure nurse job satisfaction? What influences nurse job satisfaction? What are the effects of nurse job satisfaction?

Due to the limitation of time, we cannot conduct a complex factors-attitudes-effects

study. So, in this dissertation, we only focus on the main factors influencing nurse job satisfaction both in China and Sweden. In addition, demographic studies of nurse job satisfaction have been carried out extensively, showing how nurse satisfaction differs in age, educational background, department, tenure, position in a hierarchy and so on, by the use of a quantitative analysis approach. Accordingly, we combined some core characteristics of individuals with factors of job satisfaction and tried to find out some relationships.

1.6 Outline of the dissertation

To conclude this chapter we here present the outline of the rest of the dissertation.

Chapter 2 In this chapter we will present the method chosen. Various research philosophies and the research approaches are discussed. Different methods to conduct research are presented. Finally, the explanation to our choice of research method is introduced, as well as data collection methods.

Chapter 3 In this chapter we will present theoretical framework. We will critically review the existing theories about job satisfaction, and develop our research model and hypotheses.

Chapter 4 In this chapter we will present the empirical method. The research strategy of our research is stated. The objects and population of the nurses and the contents of the questionnaire are discussed.

Chapter 5 In this chapter we will present the results of our study, including acceptance or rejections of the hypotheses. The five research questions will be answered.

Chapter 6 In this chapter we will analyze and discuss the results of the survey. Conclusions are made and our findings will be presented.

Chapter 7 In this chapter we will present our conclusions. Suggestions for further research will also be discussed. The reflections on our research will be

also presented.

1.7 Summary

With the development of society, people need high quality health care service. While health care staff, especially nurses, often experience satisfaction at work, it is important to improve their job satisfaction. In order to do so, we believe that it is necessary to find out what leads to nurse job satisfaction.

2 Method

In this chapter we turn our attention to the research methodology we employed. The research philosophy and the research approach are discussed at first. Then different methods to conduct research are described and the explanation to our choice of research method is presented. Data collection methods are introduced at the end.

2.1 Research philosophy

It was necessary to consider the research philosophy, to begin with. There are three main philosophical positions in relation to research: positivism, interpretivism and realism. They are different views about how to develop knowledge and the way to do research (Saunder, Lewis & Thornill, 2003, 83).

Positivism origins from natural science, which places emphasis on a highly structured methodology and quantifiable observations, with the purpose of facilitating replication. Its final product is law-like generalization (Saunder et al, 2003, 83). Thus, this kind of research philosophy mainly focuses on finding out the truth from the reality or creating a brand-new, general theory or model to explain the reality. However, as far as our research is concerned, it belongs to social science rather than physical science. Nurse job satisfaction can be viewed as a function of a set of circumstances (variables) and nurses at work. It is far from easy to '*capture the rich complexity of social situations*' (Saunder et al, 2003, 84). So we do not think it is suitable to employ a positivistic approach for our research.

While interpretivism criticizes positivism of the loss of complexity of the society, it argues that society is too complex to generalize, and there is no objective reality, only a subjective reality where it is important to understand people's motivations, actions

and intentions. Interpretivism is approximately the same as social constructionism (Saunder et al, 2003, 84). Nurse job satisfaction is a complicated social phenomenon, as we will discuss in this dissertation later. Different people may place different interpretation on job satisfaction. In this case, interpretivism seems like the proper way for our study.

Based on the belief that reality exists independent of human thoughts, realism shares some aspects with positivism. In other words, realism believes that it is possible for researchers to generate a commonly shared interpretation of a social phenomenon. Take nurse job satisfaction for example, many factors that influences nurse job satisfaction are external to or independent of the nurses, and will therefore affect the way in which nurses perceive their work and their actions, whether they are aware of these forces or not. On the other hand, realism recognizes that '*people themselves are not objects to be studied in the style of natural science*' (Saunder et al, 2003, 85). As for our research on nurse job satisfaction, we believe that although nurse job satisfaction is a complex issue, and positivism cannot be applied to such kind of study; common interpretations about factors influencing nurse job satisfaction does exist. Thus, realism is most appropriate for our research.

2.2 Research approach

There are two main approaches for us to do research: deductive and inductive. The choice of research approach depends on the research questions and objectives (Saunder et al, 2003, 85).

2.2.1 Deductive approach

Deductive approach starts out from theory to data in which researchers develop a theory or hypothesis and design a research strategy to test the hypothesis (Saunder et

al, 2003, 86). For our purpose, deductive approach will be more proper. We start by conducting a review of the literature on job satisfaction theories in order to develop research hypotheses. These hypotheses will be expressed in operational terms. Then, a questionnaire which will be used to collect primary data is developed based on these hypotheses. The questionnaire is handed out to a sample of nurses from public hospitals in Ningbo. Data analysis uses the SPSS software. In the end, the hypotheses are tested. Obviously, these sequential stages listed above are the way through which a deductive research progresses.

2.2.2 Inductive approach

An alternative approach to do research is inductive approach which emphasizes on '*a close understanding of the research context*' (Saunder et al, 2003, 89). Researchers collect data and develop a theory as a result of the analysis of the data. In other word, this approach aims to build a theory. Inductive approach will be applied to our study while we conduct our literature review. By means of a general review of job satisfaction theories, we develop our research hypothesis which is later tested. However, since our intention is not to set up a brand-new theory, inductive approach was irrelevant.

2.3 Choice of method

To serve our research objectives better, several methods were considered, including experiment, case study, exploratory and explanatory study and survey. This part will explain the choice of different methods.

Experiment is a classical way of research both in natural science and psychology (Saunder et al, 2003, 91). The famous Hawthorne study is a typical example of this approach. (Ott, 1996) However, ii was impractical for our research, since we had

neither funds nor facilities at our disposal. It can also be time-consuming to use experiment and time was limited for us.

The case study strategy has '*considerable ability to generate answers to question 'why"* (Saunder et al, 2003, 93). The purpose of this study is to identify the main factors influencing nurse job satisfaction, and to find out how those factors differ among different nurse groups. It answers the 'what' and 'how' questions rather than to gain a deep understanding of why nurses are satisfied with their jobs. Therefore, a case study strategy was not appropriate.

Literature review is a valuable means of finding out that what has been done on nurse job satisfaction. By doing so we got a deep insight of the subject. We employed this method in this dissertation. We also gave explanation of the relationships between variables when we analyzed the result.

The survey strategy is suitable for our research. It is a popular strategy in business and management research (Saunder et al, 2003, 92). Most researchers adopted this strategy in the former studies on job satisfaction and we found survey method suitable for our study as well for the reasons that it allowed us to collect a large amount of data from a large population. As far as nurse job satisfaction is concerned, a large scale investigation will make the result reliable, valid and general.

2.4 Data collection

Both secondary and primary data were used in this dissertation and were important for our research objectives.

2.4.1 Secondary data

Job satisfaction is perhaps the most widely studied topic in organizational psychology (Williamson, 1996). From the last century, many researchers have made great efforts

in the field of work morale (e.g. Maslow 1965, McGregor 1966, Locke 1976 1983, & Hall 1986). Locke reviewed the job satisfaction literature in 1976 and estimated that over 3300 studied on job satisfaction had been conducted. In the 1990s, although the research interest in job satisfaction declined, 7856 studies had been published (Judge *et al,* 2001, 26). Therefore, a variety of secondary data including books, journal articles are available for our study.

Nurse job satisfaction is a specific topic. We collected information about this topic to see if there is a general recognized theory or model relevant to our research questions. We found that research on nurse job satisfaction is either too simple or impractical. Finally we turned to the motivation theories to find the right answer.

Motivation theories are closely related to job satisfaction. Most research in the field of job satisfaction can be divided into three main subtopics: the measurement of job satisfaction, factors in job satisfaction and the effects of job satisfaction. When we studied previous theories and studies we mainly focused on what affects employee job satisfaction, and from there we developed our research hypothesis.

Most important of all, we had the access to the library in Kristianstad University where we read books and E-books, and searched electronic full text Journals online.

2.4.2 Primary data

Primary data in this study is collected by using a delivery and collection questionnaire in accordance with our survey strategy. The purpose of the questionnaire is to find the main factors which affect nurse job satisfaction. The questions in the questionnaire are not only about the factors which affect job satisfaction, but also include the basic information of the investigated nurses, which are related to the research questions. In order to reflect the main factors of nurse job satisfaction, the design of the questions is

easy to understand and based on the theories of organizational psychology. Taking into account the representativeness of the nurses in China and Sweden, we chose four hospitals and in order to cover all kinds of nurses. Fortunately, we got the support of the hospitals both in China and Sweden, so the questionnaires were delivered and collected in time and our colleagues in China helped us input all the primary data into computer.

Delivery and collection of questionnaire is one of the most effective methods to collect the primary data but it also has its disadvantages. It is possible that because of lack of a pilot test, the design of the questions in the questionnaire may not cover all the items related to the job satisfaction of nurses.

2.5 Summary

Based on the research purpose our research philosophy was realism. Under this philosophy, a deductive approach was adopted and a survey strategy was set up. In accordance with the research strategy, a delivery and collection questionnaire was chosen.

3 Literature review: Theories of job satisfaction

In this chapter we provide a general view of the existing theories about job satisfaction. Three different types of theories are reviewed, including: (1) situational theories, which emphasize the relationship between job environment and job satisfaction (Maslow's hierarchy of needs theory, Herzberg's two-factor theory, the social information processing theory and the job characteristics model); (2) dispositional approaches, which argue that job satisfaction results from individual characteristics; (3) interactive theories, which believe that job satisfaction is a function of personality and situational influences (Adams equity theory, the Cornell model and Locke's value-percept theory). On the basis of these theories, we develop our research mode and research hypotheses.

The beginning of job satisfaction research can be traced to the 1930s. The early work of Taylor (1911) on scientific study of production focuses on standardization and the improvement of practices and techniques that would reduce worker fatigue. The famous Hawthorne experiment[1], done in the Hawthorne planet of the Western Electric Company, shows that complex, internal variables make the difference in motivating people (Mayo, 1933), as Roethlisberger (1941) concluded '*most of us want the satisfaction that comes from being accepted and recognized as people of worth by our friends and work associates.*' In 1935, Hoppock published the first intensive study of job satisfaction, which coincided with the Hawthorne studies, and he placed emphasis on job satisfaction research, '*Whether or not one finds his employment sufficiently*

[1] The Hawthorne Experiments were conducted by Professor Elton Mayo, from 1927 to 1932, at the Western Electric Hawthorne Works in Chicago. The experiments were primarily started with the intention of studying the relationship between productivity and work conditions. Professor Mayo started these experiments by examining the physical and environmental influences of the workplace and then moved on to the psychological aspects.

satisfactory to continue in it … is a matter of the first importance to employer and employee' (1935, 5). Since then, different researchers have put great efforts on this topic and presented different explanations or theories (e.g. Herzberg 1959; Roy 1960; Maslow 1965; Adams, 1965; Locke 1976; Hackman & Oldham 1976; Staw & Ross 1985; Hulin & Mayer, 1986).

According to Judge et al, theories of job satisfaction include three streams: '*(1) situational theories*, *which hypothesizes that job satisfaction results from the nature of one's job or other aspects of the environment; (2) dispositional approaches*, *which assume that job satisfaction is rooted in the person logical make-up of the individual; and (3) interactive theories*, *which argue that job satisfaction results from the interplay of the situation and personality'* (2001, 28). Any theories concerning the nature and causes of job satisfaction can be roughly classified into one of these three categories.

As we shall see, research on job satisfaction originates from work motivation, thus, the literature review we conducted is mostly based on the motivation theories.

3.1 Situational theories

Situational theories of job satisfaction attempt to identify specific things that affect employees' job satisfaction. Although many theories have been proposed, we believe that four stand out as being the most influential: (1) Maslow's hierarchy of needs theory; (2) Herzberg's two-factor theory; (3) the social information processing theory; and (4) the job characteristics model. Below we conducted a review of these theories.

3.1.1 Maslow's Hierarchy of needs theory

Maslow's hierarchy of needs (1943) is famous for its five levels of needs which are often illustrated as a pyramid (see figure 3.1 below).

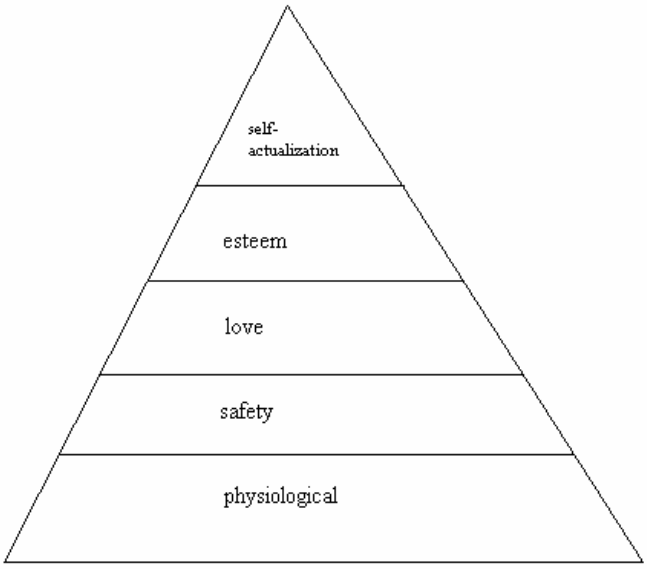

Figure 3.1 Maslow's hierarchy of needs

Maslow believes that '*Man is a perpetually wanting animal*' (Maslow, 1943, 45) and has different needs. The first level of needs are called physiological needs containing food, water, air and warmth, which Maslow believes are '*the most prepotent of all needs*' (Maslow, 1943, 46) because when human beings are '*dominated by the physiological needs, all other needs may become simply nonexistent or be pushed back into the background*' (Maslow, 1943, 47). Once the physiological needs are satisfied, there emerges a new set of needs, known as safety needs which include security, stability, orderliness, and predictability. Both the physiological needs and safety needs are preliminary needs which can be easily satisfied, for example by increasing worker's salary. The third level needs are also called social needs which involve both giving and receiving love. It is natural for human being to go for affection, belongingness, friendships, and social activities. Maslow categorizes the fourth level as esteem needs since he believes that all people have a desire for '*a stable, firmly based, (usually) high evaluation of themselves* (Maslow, 1943, 49).' The

needs of this level can be classified into two subsidiary sets. The first sets are the desire for strength, achievement, adequacy, confidence, independence and freedom. The second one consists of a desire for reputation, recognition, attention, and appreciation. At the highest level of Maslow's hierarchy are self-actualization needs. The form of these needs vary from person to person. For example, some may want to be creative and innovative, some may want to be the owner or manager, and others may hold different ideas.

Maslow's theoretical premises can be summarized as follows:

- Human beings are motivated by five basic needs. These are physiological, safety, love, esteem, and self-actualization.
- These basic needs are arranged in a hierarchy. This means that as lower levels of needs are satisfied; they are no longer motivators and cannot drive people.
- As lower level needs of employees become satisfied; higher order needs take over and will be the focus of the employee's attention.

Maslow's hierarchy of needs is regarded as a development of the Hawthorne Experiment (Ott, 1996, 27). It tells us that job satisfaction results from the satisfaction of worker's needs. Several or all of these needs simultaneously function as determinants of job satisfaction rather than only one of them. Researches still show that Maslow's hierarchy of needs is a useful framework for categorizing reasons for work (e.g. Spear, 2006). However, his theory has been attacked frequently. Some say it oversimplifies the complex structure of human needs (Wahda & Bridwell, 1973). Maslow mainly focuses on the internal needs and ignores the external needs which originate from outside the workplace. Recent research suggests that job satisfaction is one branch of the life satisfaction. Judge and Watanabe (1993) argue that the relationship between job and life satisfaction is reciprocal. They affect each other. That means that the causes of job satisfaction are multiple, both intrinsic and extrinsic. In addition, the idea that all human beings have these needs arranged in a particular way is questionable. There are a number of exceptions. For instance, self-esteem

seems to be more important to some people than love, even when they are suffering from hungriness.

3.1.2 Herzberg's Two-factor theory

By asking 'what do people want from their jobs', and in an attempt to identify the determinants of job satisfaction, Herzberg conducted a study in 1959. 203 subjects (accountants and engineers) were interviewed in terms of the critical incident method. They were asked to describe a time when they felt exceptionally good or exceptionally bad about their jobs. His findings suggest that there are two sets of factors involved in producing job satisfaction and motivation, and the factors that lead to satisfaction are different from those that lead to job dissatisfaction. One set of factors which he named as the growth or motivator factors that are intrinsic to the job are achievement, recognition for achievement, the work itself, responsibility, and growth or advancement. The second set of factors which he referred to as the dissatisfaction-avoidance or hygiene factors that are extrinsic to the job include: company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security. The result also indicates that the hygiene factors were the primary cause of job dissatisfaction if they were not present, and the motivators were the primary cause of satisfaction if they were present. Figure 3.2 summarizes the theory.

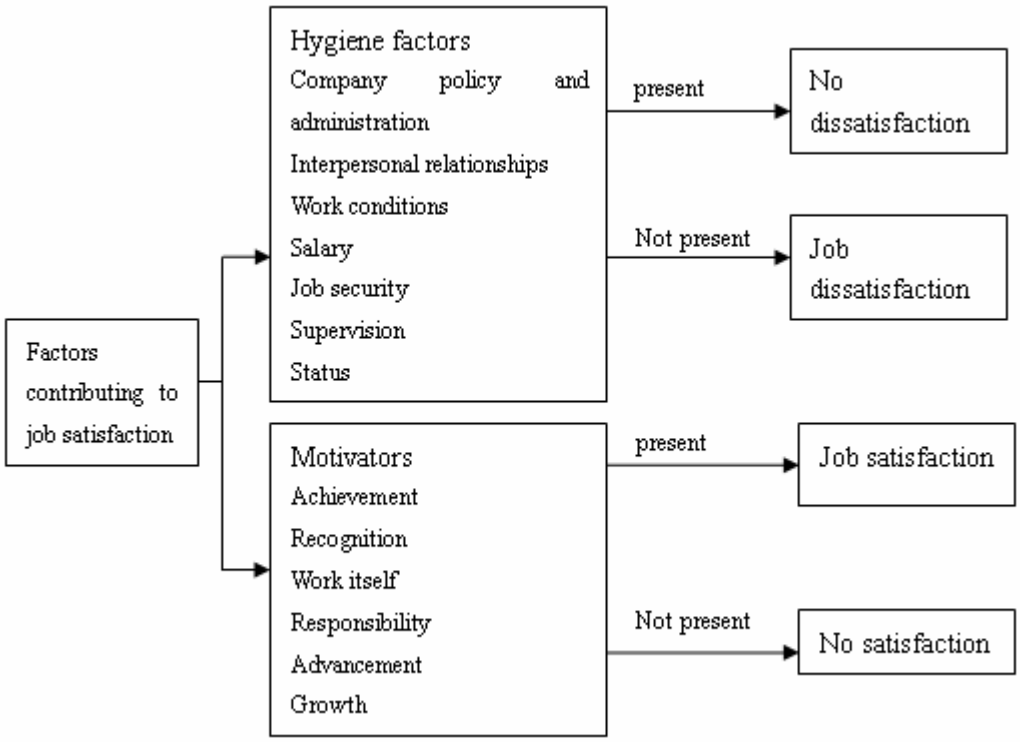

Figure 3.2 Herzberg's two-factor theory

Furthermore, Herzberg particularly pointed out that '*The opposite of job satisfaction is not job dissatisfaction but, rather, not job satisfaction; and similarly, the opposite of job dissatisfaction is not job satisfaction, but not job dissatisfaction* (Herzberg, 1968).' That is totally different from the previous thought that the removal of those factors that cause job dissatisfaction would automatically lead to job satisfaction. Herzberg thinks it was not the case. Employees may be no longer dissatisfied with their jobs, but they would not necessarily be satisfied. This means that in order to increase job satisfaction managers must focus on motivators such as '*making the work interesting, challenging, and personally rewarding*' (Judge et al, 2001, 28), rather than simply eliminating the hygiene factors from a job.

Herzberg's two-factor theory provides a useful tool for the management to motivate employees. Studies testing Herzberg's two-factor theory show that in line with Herzberg's predictions, factors associated with intrinsic satisfaction do play a more

important part in increasing job satisfaction (e.g. Bassett-Jones & Lloyd, 2005; Jr., Kara & Kaynak, 2005). While many researches do not support Herzberg's two-factor theory (e.g. Johnston III, 1990; Gordon, Pryor & Harris, 1974). Contrary to Herzberg's claim, those researches show that intrinsic and extrinsic factors contribute to both satisfaction and dissatisfaction. Schneider J. and Locke E.A. (1971) argue that intrinsic factors are related to satisfaction and extrinsic factors are related to dissatisfaction because employees themselves are given credit for satisfaction while others are primarily blamed for dissatisfaction. This means there are many flaws in Herzberg's two-factor theory. Furthermore, cross-cultural studies using international samples do not support the theory. For instance, Adigun and Stephenson (1992) made a comparison between small samples of British and Nigerians living in England, adopting the same method as Herzberg did. They find that the responses of Nigerian and British employees to questions concerning the origins of satisfaction and dissatisfaction are quite different. Nigerian employees place more value on extrinsic job rewards and British employee value intrinsic job rewards more. That makes the authors believe that culture has a powerful impact on work behavior. In other words, worker's needs are not the same around the world.

3.1.3 Social Information processing model (SIP)

According to the social information processing model, job satisfaction is determined by the effects of social context and consequences of previous behaviors (Salancik & Pfeffer, 1978). When an individual forms an attitude, he or she will be affected by social information, which is about past behaviors and about what others think. Individuals pay more attention to '*the ecology of the organization'* (Pfeffer & Salancik, 1978, 1), they intend to be consistent with the salient, prime and relevant information that people take for granted, and to seek acceptable and legitimate responses. From the inputs to outcomes – job attitudes – the process is influenced by commitment processes, the social sources of information and the needs to develop rational actions.

The SIP model can be summarized as Figure 3.3.

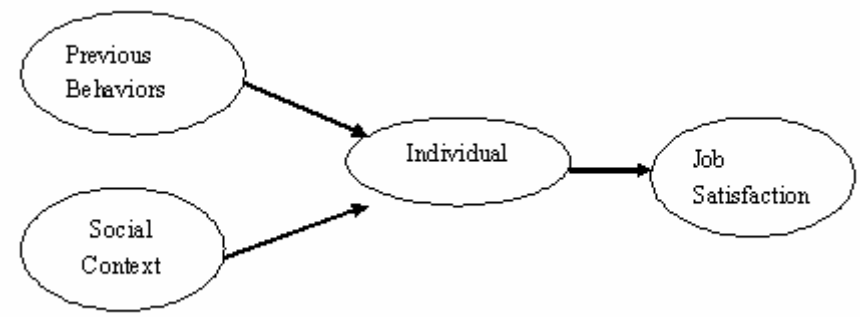

Figure 3.3 Social Information Processing Model

The SIP model is strongly supported by the empirical analysis and experimental studies. View from the past experience perspective, when an individual works in an organization, one will have stronger attitudes toward the organization according to the experiences he has (Lucas, 1981). Clinical empirical research demonstrates that mental representations of significant others left in memory influence individual cognition, evaluation, affect, motivation, expectancies and self-evaluations, and can be activated and applied in new encounters (Andersen & Glassman, 1996; Andersen, Reznik, & Chen, 1997).

Viewed from a social context perspective, the social context may be one of the best tools to analyze influences of an individual's attitudes from macro to micro levels. Different interactions of the sources create different rules, different institutions, different controls and different critical contingencies (Weick, 1996). Rice & Aydin (1991) test three network-based mechanisms, including relational, positional and spatial proximity, to explain the sources of social information influencing the attitudes in an integrated health system. The results show inputs from relational and positional sources have great influence on job attitude than those from spatial sources. People with similar positions, coworkers who are communicated with frequently, and supervisor are closely correlated with individual's job satisfaction (Burt, 1987; Larson & Callahan, 1990).

Viewed from the process of social information perspective, the technology-related job satisfaction is often influenced by social interactions and psychological processes rather than directly by objective and technical characteristics (Fulk, Steinfield, Schmitz, & Power, 1987). In sum, the social information processing model provides an interpretation that an individual's job satisfaction is dependent on the social context and how the social sources contribute to job satisfaction. The implication of the model's application in the practice is that social construction and task redesign is more important than original constructions. Concerning with re-constructing institutions of organization, within the framework of existing mainstream ideologies and familiar procedures, can increase job satisfaction efficiently.

Since 1990s, the social information processing model faces new situations and challenges. Firstly, previous behaviors as one of the inputs of the SIP model are questioned. Stone argues that the SIP model provides '*no viable explanation for the motivation of human behavior within or outside of organizational settings, including the behavior suggested in the SIP model.* (1992, 33)*'* For example, how to explain a newcomer's satisfaction without any experiences who is the first time to get work. The results of an applied study in virtual groups found that a powerful set of collaboration rules and norms reduce uncertainty and enhance trust and liking in distributed work teams, less consistent with relationship between rule following, previous behaviors and actual performance quality (Walther & Bunz, 2005).

Secondly, the SIP model is criticized for the social context affecting job satisfaction. Rice et al (1991) emphasizes that the theory fails to provide clear guidance for how to identify and weight the relevant sources. Hulin (1991) notes that the same job characteristics appear to predict job satisfaction in different cultures, even though the social context such as environments, values and norms are completely different. In contrast to the social information cues, text message service has now become a popular communication tool in distributed organizations, which helps individuals to

participate within the organization equally (Galushkin, 2003).

Finally, the model receives inquiry for appropriate explanation of the process. A case study in a Fortune 500 company indicates that the transference of trust, provider reputation, and recipient reputation plays a critical role in the process, which illustrates that the best practice of transfer is highly dependent on the employee's willingness to share (Lucas, 2005). Specified complex linkages should be extended to cover personal and situational factors related to the depth of information processing, attitude strength and stability, and issues of time and attitude change (Zalesny & Ford, 1990). In a non-traditional organization, such as network and self-managing system through internet, the transference of the social information has been changed into simple and definite direction, and the individual has less cues to obtain from others' and apply as reference frame to comply with.

Each theory has its limitations to interpret specific areas and specific questions, and each also has a process of development, but the opposite protests mentioned above should be aware of in the application. We believe the social information processing model is suitable to analyze the nurse job satisfaction which we discussed in this dissertation. The hospitals belong to traditional network-based organizations, and evidences appear that the nurse job satisfaction is affected both by their past experiences and the social context.

3.1.4 Job Characteristics Model

The Job characteristics model is a very popular theory of job satisfaction. Ellis and Dick traced the JCM to the pioneer work of Turner and Lawrence on '*the effect that different types of jobs would have on employee satisfaction*' (2003, 71). According to Turner and Lawrence, a job that employees would be satisfied with is a job with high complexity, and job complexity consists of the following six characteristics (Ellis &

Dick, 2003, 72):

- *Variety (the different things I do in one day)*
- *Autonomy (how much independence I have over my actions)*
- *Responsibility (how much accountability I have for the success of my work)*
- *Knowledge and skill (the level of ability I bring to the job)*
- *Required social interaction (how much I have to deal with other people to get the work done effectively)*
- *Optional social interaction (how much not directly job-related interaction I need)*

The higher a job scores on theses characteristics, the more complex it is. However, it does not mean that the complexity of a job is; the higher is also the level of job satisfaction.

Based on the theory of job complexity, Hackman and Oldham (1976) developed the Job Characteristics Model (the JCM). Quite similar to Turner and Lawrence, Hackman and Oldman started their research from the definition of job characteristics which they believe is the core determinant of job satisfaction as well as work performance. They argue that any job can be described in terms of five core characteristics (Judge et al, 2001, 29):

- *Task identity – degree to which one can see one's work from beginning to end;*
- *Task significance – degree to which one's work is seen as important and significant;*
- *Skill Variety – extent to which job allows employees to do different tasks;*
- *Autonomy – degree to which employees have control and discretion for how to conduct their job;*
- *Feedback – degree to which the work itself provides feedback for how the employee is performing the job.*

Hackman and Oldman tested the model on 658 employees who worked on 62

different jobs in seven organizations, and the results support its validity. That is to say job which contains these core characteristics will lead to a high level of job satisfaction and a positive work outcome. Furthermore, they define an indicator – Employee Growth Needs Strengthen – the degree to which employee values the job characteristics. '*The more an individual values them, the more likely that a job low in any of these areas will cause dissatisfaction'* (Ellis & Dick, 2003, 72). As for the interaction between job content and job satisfaction, Hackman and Oldman point out that: first, the core job characteristics lead to three psychological states – experienced meaningfulness of the work, experienced responsibility for outcomes of the work and knowledge of the actual results of the work activities; next, these psychological states lead to the personal and work outcomes including high work motivation, high quality work performance, high satisfaction with the work and low absenteeism and turnover. Figure 3.4 describes the job characteristics model.

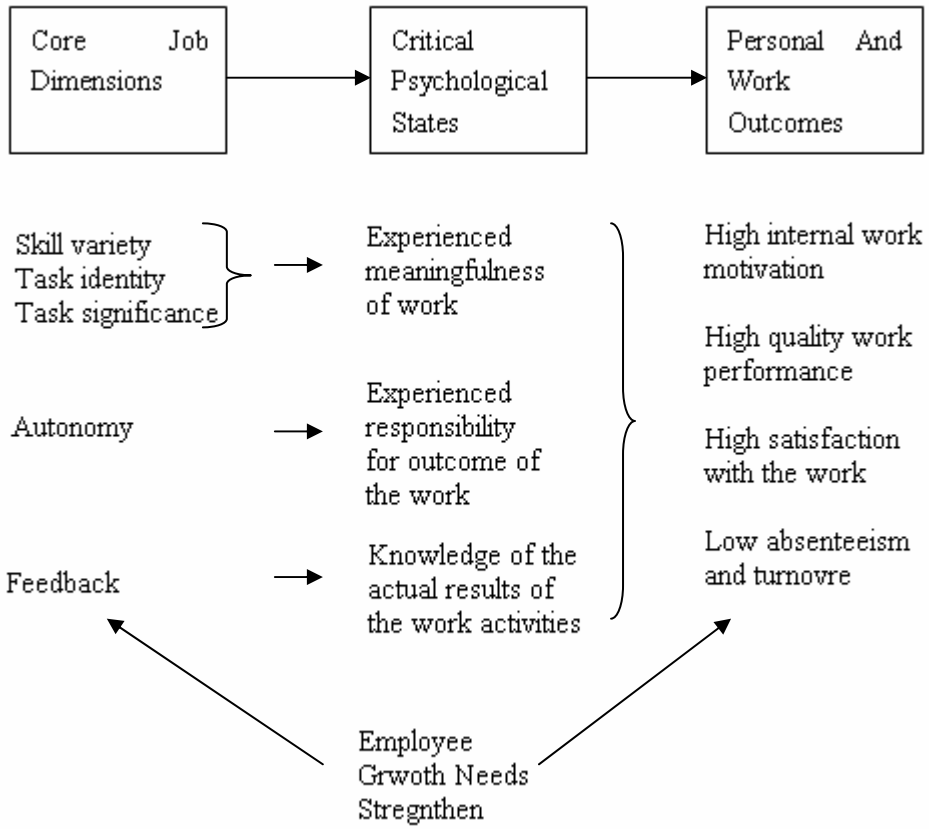

Figure 3.4 Job characteristics model (from Hackman, J.R. & Oldham, G.R. (1976). Motivation through the design of work: test of a theory, *Organizational Behavior and Human Performance*, Volume: 16, Issue: 2, 250-279)

The managerial implication of the JCM is that in order to improve work performance, management should pay more attention to the job itself. Only when a job has motivating potential, job satisfaction will occur and, hence, lead to positive outcomes. As a result, job redesign was and still is very popular all over the world. The Job Characteristics Model has gained much support, both theoretically and empirically (e.g. Lee-Ross 2001; Shafer, Tepper, Meredith, & Marsh 1995). Researches testing the JCM show that job characteristics do have a strong relationship with job satisfaction. However, it is not necessarily the case when the relationship of job characteristics and job performance is tested. Job characteristics relations with outcome measures are low

(Evans, Kiggundu, & House. 1979). Farh & Scott (1983) find that although subjects in the more autonomous conditions report a higher level of autonomy, variations in autonomy has no effect on quality of performance. Also important, the JCM assumes that job satisfaction occurs after job perceptions in the causal order. Contrary to the theory, empirical researches show '*job perceptions and job satisfaction is reciprocally related'* (James & Tetrick, 1986). Finally, the JCM is mainly based on the intrinsic motivating factors of job. It does not take the extrinsic factors into account, such as pay, supervision and working conditions (e.g. illumination). As the same with the intrinsic factors, those extrinsic factors do have an effect on job satisfaction. it is partial to ignore the extrinsic factors when we understand the causes of job satisfaction. These problems mentioned above are some limitations to the JCM. But it does not prevent the JCM from being a useful theory to analyze the causes of job satisfaction. As far as our dissertation concerned, since our purpose is to specify and understand what causes nurses to be satisfied with their jobs, identifying the intrinsic job traits may be the best place to start.

3.2 Dispositional Approaches

From the very beginning of the job satisfaction study, scholars have noticed that job satisfaction varies from person to person. Thus, it may be a special way to understand the causes of job attitude from the perspective of individual personality. However, this research area still remained uncultivated until in the middle 1980s. In 1985, Staw and Ross adopted a dispositional approach to study job attitudes, which assumes that '*it is possible to characterize people on certain dimensions, that these dimensions have some stability over time, and that these dimensions are useful in predicting individual behavior across situations*' (p 470). They tested these notions using a national sample of over 5,000 middle-aged men, and found that job satisfaction was significantly stable under situational change, even when individuals changed employers and/or occupations. The findings have great implications. According to Staw and Ross, '*the*

most straightforward implication is that many situational changes such as job redesign and organizational development may not affect individuals as intended' (1985, 478).

Though some scholars uncovered the dispositional variables (note here that terms such as personality, individual characteristics, personal disposition and traits are interchangeable.) as determinants of job satisfaction, some do not agree. Gerhart (1987) argues that there is no evidence shows that the predictive power for dispositional factors is equal or exceeds the effects of situational factors on job satisfaction. He also argues that Staw and Ross do not specify individual dispositional sources of job satisfaction. So it is not necessary that stability in job satisfaction over time results from individual personality. For example, the samples chosen by Staw and Ross are older men aged 45 to 59 in 1966 and aged 50-64 in 1971. Those old men are '*less likely to experience significant change in the work situation*' (Gerhart, 1987, 367), and this fact means that the stability of job satisfaction over time may be due to some situational variables omitted by Staw and Ross in their study.

In spite of this, the dispositional approach has attracted much attention. Other researchers have also taken a dispositional perspective, doing study by measuring personality to job satisfaction, the way which Judge et al calls '*direct studies* '(2001, 30). As we will discuss below, there are two broad groups of studies which are widely different in specifying personalities. Represented by David, Lee and Auke (1988), the first group of studies believe that Positive Affect (PA) and Negative Affect (NA) are two reliable and valid dimensions in a study of affective structure. They define Positive Affect (PA) as '*the extent to which a person feels enthusiastic, active and alert*. *High PA is a state of high energy, full concentration, and pleasurable engagement, whereas low PA is characterized by sadness and lethargy*' (David et al, 1988, 1063). Negative Affect (NA) is a state of distress and unpleasurable engagement while low NA is characterized by calmness and serenity. Several studies have related both PA and NA to job satisfaction. For instance, Levin and Stockes

(1989) investigated the relation of NA with job satisfaction and found that '*NA was significantly associated with task/job satisfaction*' (p 755). Necowitz and Roznowski (1994) also find that NA is a significant predictive of job satisfaction. Thoresen et al (2003) presented a qualitative and quantitative review of 205 studies relating trait, PA and NA to job-related attitudes, and results show that PA is positively correlated with job satisfaction while NA is negatively correlated with job satisfaction. Therefore, both PA and NA are associated with job satisfaction.

The second group introduced another concept – core self-evaluation into the research of dispositional sources of job satisfaction. Core self-evaluation refers to '*fundamental, subconscious conclusions individuals reach about themselves, other people, and the world'* (Judge, Locke& Durham 1998). According to Judge et al, core self-evaluation is composed of self-esteem, generalized self-efficacy, locus of control and neuroticism. Self-esteem is the fundamental evaluation of the self; generalized self-efficacy pertains to confidence in the control of one's behaviors; locus of control is the confidence in controlling outcomes and neuroticism is the negative pole of self-esteem. They argue that core self-evaluation has direct effect on job satisfaction, '*independent of the attributes of the job itself*. (Judge et al, 1998, 30)'

From what has been mentioned above, we found that different terms or concepts co-exist with the purpose of measuring affective disposition. Here comes a problem. Which one is best suitable to predicting job satisfaction? Researchers view these different approaches as a healthy phenomenon (Judge et al, 2001). We totally agree with them. Compared with the situational theories which emphasize the role of situational forces on job satisfaction, the dispositional approach focuses on the effect of individual characteristics on job satisfaction. It broadens our vision. When we do research on job satisfaction, the first thing to consider is that we are studying human behavior. Human being is social animal (Roethlisberger, 1941). Thus, the situational theories and the dispositional approach are inter-complementary in explanation of job satisfaction.

3.3 Interactive Theories

Interactive theories believe that job satisfaction is a function of individual characteristics and environmental factors. Here we presented three influential theories: Adams' equity theory, Cornell model and Locke's value-percept theory.

3.3.1 Adams' equity theory

Adams' (1963) equity theory is an important theory based on the conception of social comparison. '*Social comparison is a process by which individuals compare themselves with other people to arrive at a self-judgment'* (Ellis & Dick, 2003, 66). According to Adams, individuals judge the fairness of working conditions through comparing. They compare their input/output ratio with others in order to assessing whether they are treated fairly or not. Inputs are things that put into the job, such as hours, working technology, working experience, diligence. Outputs are things that get out from the job, such as payment, bonus, benefit, reputation, respect. Normally output has a close relationship with payment. At the same time, they also evaluate what they get in comparison with what they expect. During the process of assessing, they make their own conclusion whether they are fairly rewarded or not. There are three possible perceptions according to their judgment. The first possibility, they perceive that they will be properly rewarded in estimating the input/output ratio compared with others, in other words, they will be fairly treated. The second possibility, they will be over-rewarded with the input/output ratio over others'. If individuals will be properly rewarded or over-rewarded, they will be satisfied with their jobs and their attitude to the jobs will be active. The third situation, they will be under-rewarded with the input/output ratio under others'. That means they will feel inequity. Then, they will feel dissatisfied with the jobs and be motivated to reduce the inequity. There are several ways to reduce the inequity, by changing the input, such as less working time, or be lazy; by changing the output, such as require more payment,

more bonus, more respect; by changing the comparison referents, they may choose another group which are less rewarded; by leaving the job; by changing the comparison referents' input or output. Through these alternative methods, individuals reduce the inequity and finally get satisfaction from the jobs. The theory is illustrated in Figure 3.5.

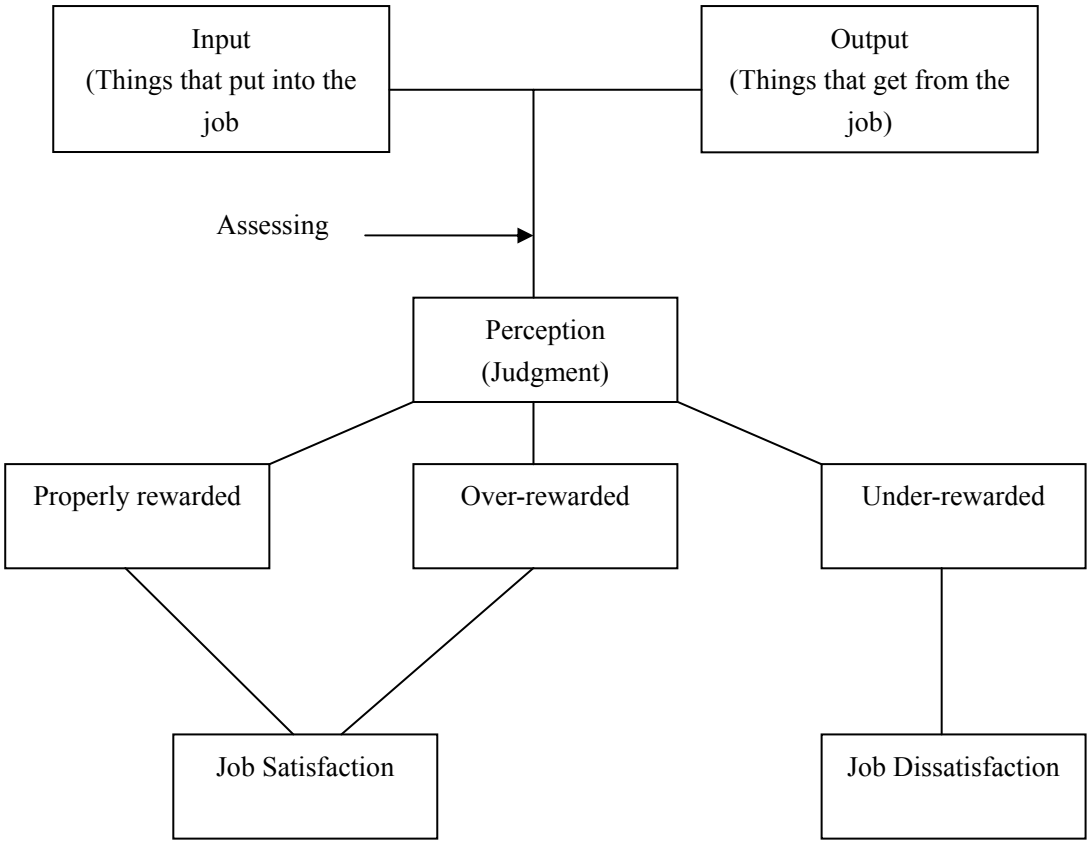

Figure 3.5 Adams' equity theory

Adams' equity theory has been further developed. Its research area has been enlarged from the equity of working condition to the concepts of distributive and procedural justice which is concentrated on the fairness of rewards and the procedure of distributing rewards (Ellis & Dick, 2003). Equity theory is very helpful to understand why people become dissatisfied in their jobs, especially in the pay and rewards area. Also, the theory contributes to understanding of what is related to motivation. But some criticism is pointed at the theory. The assessment process of equity is a matter of personal feelings. Different individuals have different characteristic. Some people will

be self-appreciative, while others will be self-depreciative. So the reality is far more difficult and complex beyond the content of equity theory. On the other hand, the theory pays more attention to the rewards. Therefore the application of the theory is limited. Even in the distributive area, the theory is not approved to be the authoritative one. It only proves to be one of the several theories which influence the distribution (Mowday, 1983).

3.3.2 Cornell Model

The Cornell Model stresses job satisfaction as a function of what an individual receives from work roles and what one expects to receive. Smith, Kendall, and Hulin (1969) argue five facets influence job satisfaction including work itself, coworkers, supervisor, pay, and promotion opportunities. Based on integrating the previous relevant theories, they also developed a model of job satisfaction called Cornell Model (Hulin, Roznowski and Hachiya 1985; Hulin 1991). Figure 3.6 summarized the model.

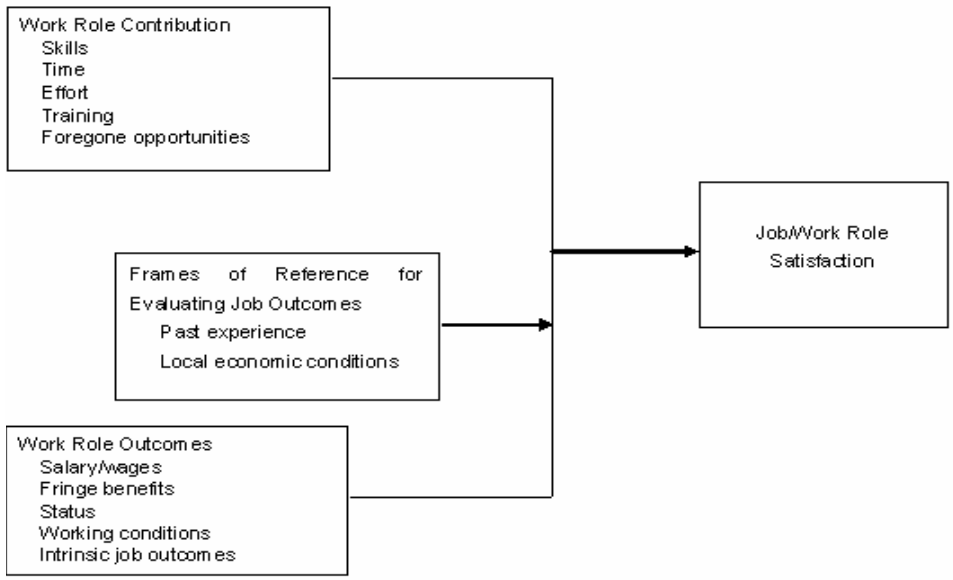

Figure 3.6 Cornell Model of job satisfaction (from Hulin, C.L. (1991). Adaptation, persistence, and commitment in organizations. In M.D. Dunnette, & L.M. Hough (Eds.), *Handbook of industrial and organizational psychology,* (Vol. 2, 453). Palo

Alto, CA: Consulting Psychologists Press)

According to the model, when individuals invest inputs, such as skill, training, time and efforts, into the work role they will expect to receive outcomes like pay, status, working conditions and advancement so on. The more outcomes they received, the higher job satisfaction will be. Simultaneously, the marginal utilities influence the outcomes significantly, the individuals will consider opportunity costs based on the comparison standard. The frame reference is mainly comprised of the individual's past experience and value. Whether the individuals are satisfied with their jobs are based on their feelings and psychological response by balancing the inputs (contributes) and outcomes (inducement). For example, in the local labor market, when the unemployment rate is high, they will perceive few available alternative opportunities because of high competitive costs, and will then be satisfied with the present work role. The reverse situation is also true, the better economic conditions, the more job alternative opportunities, the lower job satisfaction. The workers will value their inputs and dissatisfied with the current job role and seek to withdraw.

It is obviously so that a worker's attitude will be affected by the external situation and environment, such as the unemployment rate, and these external factors will influence the individual's feeling of job satisfaction. Furthermore it will influence his or her response to the situation. So the Cornell Model is a useful tool to analyze the main factors affecting the nurse satisfaction.

3.3.3 Value-percept theory

Locke (1976) value-percept theory presents different perspective on job satisfaction. He argues that to great extent what satisfy individuals on their jobs are determined by their own values. Note that here value is defined as that which one desires or considers important. That is to say, many factors such as salary, promotion may play

an important role on individuals' job satisfaction only when they are unfulfilled and valued by individuals. The value-percept model can be summarized as follows:

$$S = (V_c - P) \times V_i \quad or$$

$$Satisfaction = (want - have) \times importance$$

'*Where S is satisfaction, V_c is value content (amount wanted), P is the perceived amount of the value provided by the job, and V_i is the importance of the value to the individual*' (Judge, 2001, 31). Thus, value-percept theory predicts that facets importance moderates the relationship between facet amount and facet satisfaction, but it does not moderate the relationship between facet satisfaction and general satisfaction. In other words, the whole is not as same as the sum of parts.

Locke's theory is, to some extent, similar to Vroom's EIV theory (1964). Both emphasize on the importance of facets to individuals. Only if the job facet is important to the individual, the discrepancy between what is wanted and what is gained is dissatisfying. However, there is one potential problem. How can we explain why one wants a lot of money while it is not important to him? That reminds us that what one wants and what one considers important are overlapped. We may not separate them from each other.

3.4 Summary and integration of job satisfaction theories

So far we have conducted a general literature review of theories concerning job satisfaction. Different theories present different explanations to job satisfaction from different perspectives. Although these theories seem to compete with each other, it is not the case. As emphasized repeatedly, job satisfaction is a complex social phenomenon, and different explanations broaden our mind and help us develop our research model. To begin with we summarized these theories.

Of these job satisfaction theories, Situational theories deal with work motivation by means of trying to find out the causes of job satisfaction. It assumes that job satisfaction is positively related with good performance. Just as its name implies, situational theories propose that job satisfaction results from environmental factors, though different theories present different models. Maslow portrays a picture of human nature that people are motivated by various needs on which job satisfaction rests. Herzberg makes a distinction between satisfaction and dissatisfaction on the job. According to his theory, job satisfaction results from the presence of intrinsic motivators associated with work such as achievement, recognition and advancement, while job dissatisfaction comes from extrinsic factors (hygiene factors), such as salary, working conditions. Although the motivators are much more emphasized, Herzberg points out the extrinsic factors also have effect on job satisfaction, '*prevention of dissatisfaction and mental illness is just as important as encouragement of motivators satisfaction and mental health*'(1993, xvi). The sources of job satisfaction listed by Two-factor theory can be further developed for study on job satisfaction. Social information processing (SIP) model argues that job satisfaction is a social constructed reality (Salancik & Pfeffer, 1978). People will not form a general idea about their jobs until they are asked, and when they are asked, they will basically base their responses on the previous experiences and others intervention. That is to say, different cultures, values, organizational structures, and so on, will affect individual attitude towards the job. Thus job satisfaction is a process of social informational interpretation rather than a positive feeling towards the job. The SIP theory tells us that social environment plays an important role in job satisfaction. Job characteristics model (The JCM) has garnered the most research support. It focuses on job itself. Which kind of job can produce employee's satisfaction? The JCM predicts that the more complex and challenging jobs are the more satisfied employees will be. In fact, the five core job characteristics are some kind in consistence with Two-factor theory. Both put emphasis on intrinsic factors to job satisfaction. In general, when we set about specifying the factors influencing nurse job satisfaction, situational theories provide

many cues for our research.

The dispositional approach is a person theory. It argues that although situational factors may affect individual attitude towards job, job satisfaction is actually a psychological feeling of human. It is essential to understand dispositional sources underlying job satisfaction. However, it is also difficult to measure personality trait to job satisfaction. The specific characteristics that have been investigated vary widely across studies. Watson et al (1988) use positive and negative affectivity (PA and NA) to measure the relationship between personality and job satisfaction. Their studies show that both PA and NA are related to job satisfaction. Judge et al (1998) create another concept, core self-evaluation. They argue that '*core self-evaluations are the base on which situationally specific appraisals occur*.(Judge et al, 1998, 31)' Researchers have noticed the unique effect of personality on job satisfaction, yet the process by which personalities influence job satisfaction remains little known. Also important, the dispositional approach does not deny that the situation is relevant to job satisfaction, rather, it suggests that individuals with positive self-evaluation tend to be more satisfied with their jobs.

Interactive theories seem to try to combine situational theories with dispositional approach. It holds the belief that situational variable is as important as personal characteristics to job satisfaction. Adams equity theory shows how important the equity of working conditions is to employees. Company policy should be fair in order to maintain or improve employees' job satisfaction. Cornell model takes the social environment into account, e.g. the labor market. It predicts that opportunity cost is the comparison standard for individuals to form job attitudes: satisfaction or dissatisfaction. This model expands the research area broadly from work itself and organization to the society. Locke's value-percept theory also emphasizes comparison, but limited within organizations and individuals. In general, these three theories focus much more on interaction between individual and environment.

Now we had many theories of job satisfaction at our disposal, yet one may ask 'are these theories compatible with each other?' Judge et al (2001) strongly believe that the answer is absolutely 'yes'. They found that job characteristics mediate the relationship between core self-evaluation and job satisfaction, because part of the reason individuals have positive core self-evaluation is that they have attained more complex jobs. As to the relationship between job characteristics model and value-concept theory, we can see that increasing the level of job characteristics is equivalent to reducing the have-want discrepancy, and would improve employee's job satisfaction. In this case, the implication of the situational theories and the interactive theories is the same. Both suggest that '*the most effective way to increase job satisfaction would be to increase intrinsic job characteristics*' (Judge et al, 2001, 32). Thus, the sources of job satisfaction are mainly from three parts: individual characteristics, intrinsic job characteristics and extrinsic job conditions.

3.5 Research model

On the basis of those theories we discussed above, we drew the conclusion that job satisfaction is a global concept which is determined by various factors. Those factors can be categorized into three groups: individual characteristics, intrinsic job characteristics and extrinsic job conditions. First of all, individual characteristics play an important role when people form their judgments of their jobs. It is a psychological process where '*both cognition and affect appear to be involved*' (Judge et al, 2001, 26). Whether PA and NA, or Self Core Evaluation, or other theories, we believe that these concepts do help us better to understand the nature and causes of job satisfaction. We also believe that individual demographic characteristics such as age, gender, education do contribute to job satisfaction, because to some extent, they reflect individuals' experiences which are the appraisal base of job satisfaction. We simply separated factors influencing job satisfaction into intrinsic and extrinsic elements, where the intrinsic elements refer to those factors that are endogenetic in a job such as

achievement, and personal growth. The extrinsic elements are those that are provided by the external forces such as salary and working conditions. If we describe these three elements of job satisfaction as an 'onion', the first layer is the extrinsic job conditions, the second layer is the intrinsic job characteristics and the individual characteristics are the center of the 'onion' (see Figure 3.7 below).

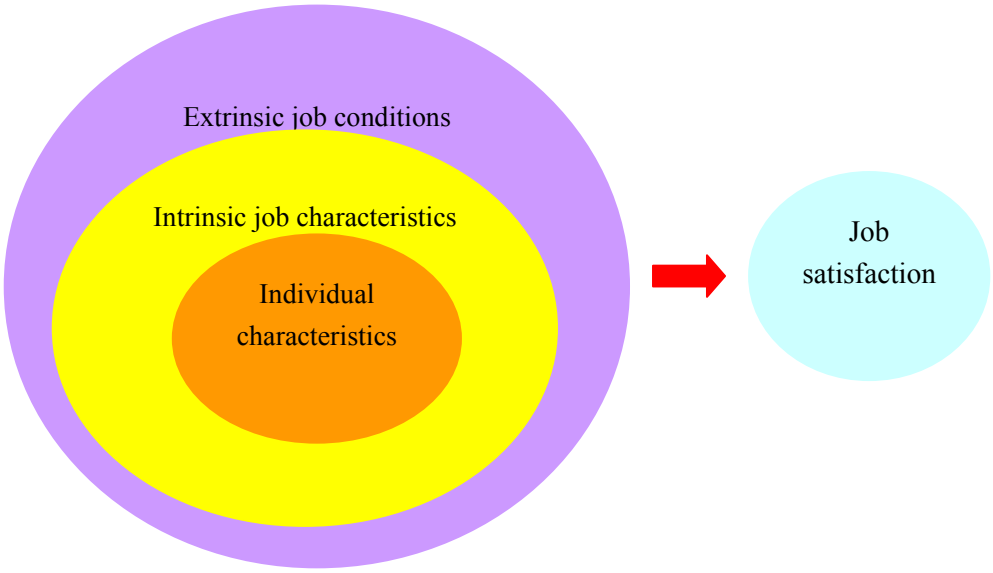

Figure 3.7 Factors contributing to job satisfaction 'onion'

These three layers interact and based on which job attitudes (satisfaction or dissatisfaction) are formed. Note that different individual characteristics, different intrinsic job characteristics and different extrinsic job conditions may lead to different job attitudes. In other words, people are different. The importance of intrinsic and extrinsic factors may be totally different underlying the judgment of job satisfaction (e.g. Herzberg 1993; Ellis & Dick 2003; Hackman & Oldham 1976; Admas 1976). Below we presented a list of factors affecting job satisfaction.

3.5.1 Extrinsic job conditions

Extrinsic job conditions are external variables which are generally regarded as primary sources of job dissatisfaction. These factors include:

- **Salary.** According to Maslow's hierarchy of needs theory (1943) salary is the basic need for employees. Herzberg (1993) believes that salary belongs to hygiene factors and can prevent job dissatisfaction. It will lead to severe dissatisfaction and ultimately demotivation if employees are dissatisfied with salary. Salary is seen by many managers as a major motivators or at least an important factors influencing employees' job satisfaction. Smith et al. (1969), Liou et al. (1997) and Tseng et al. (2002) identify salary as an important aspect for nurse job satisfaction.
- **Supervision.** Supervision is the affiliation between leaders and subordinates. A synergistic supervision is an appropriate instrument to enhance job satisfaction. It will establish open communication, trust relationships, supervisory feedback and evaluation. Supervisors should apply the appropriate strategies with their employee's status and act accordingly (Herzberg 1993; Hackman & Oldham 1976; Smith et al. 1969).
- **Workload.** Workload is relevant to the strength level of the job role and pressure, such as the number of hours per week，workforce in a shift, magnitude of the goals, frequency of pace of job. The pleasant workload influences employees' job satisfaction (Maslow 1943; Herzberg 1993). Many researches indicates that high workload in hospitals will cause nurses' job stress and job dissatisfaction (e.g. Dolan 1992)
- **Working conditions.** Working conditions are relevant to the environment impact, such as the space for operating and resting, criticality of the job, the degree of required technology and skill; equipments situation and so on. Working conditions are hygiene factors to prevent dissatisfaction (Herzberg 1993). Locke (1976) finds that working conditions, which are compatible with the individual's physical needs and work goals, are positively associated with job satisfaction. Researches on nurse job satisfaction also emphasize that a support working conditions is helpful to nurse job satisfaction (e.g. Liou, 1997; Agho, 1993; Kangas et al., 1999).
- **Interpersonal relationship.** The need theories (Mayo 1933; Maslow 1943; Herzberg 1993) show that man is also a social animal. One of the most important needs is love, both giving and receiving. Interpersonal relationship play an

important role in job satisfaction for two reasons: first, good relationship improves people's interest in staying at work which can maintain high job satisfaction (Herzberg 1993); second, good relationship may lead to positive intervention, which is proved to be the social information people rely on to form their attitudes towards jobs (Salancik et al 1978). As far as nurses are concerned, obviously, the relationship between doctors, supervisors, and peers tremendously affects nurse job satisfaction (Adams & Bond, 2000).

- **Administration.** Administration is about the leadership and management style, such as the span and degree of hierarchy, flexibility and autonomy, the organizational norm, culture distinction fostered by the members that differentiate from the others. Agho (1993) finds that administration including routinization, participation, and integration are the major determinants of nurse job satisfaction.
- **Public opinion.** Public opinion of nurses reflects the occupational prestige for nurses which may result in improved job satisfaction (Johnson, M. & Bowman, C.C., 1997). The social information processing theory indicates that the individual's attitude towards his job would be influenced by public opinion (Salancik & Pfeffer, 1978). Positive public opinion will bring affirmative cognition and job satisfaction, while negative opinion will increase frustration and regression.
- **Status**. Status is the perception from the social and others attitude to the profession. According to the previous research, generally, the higher reputation the profession is, the higher respects the nurses receive, and the higher job satisfaction is (Salancik et al 1978). Study of Kovner et al. (1994) concludes that status is one of the important predictors of nurse job satisfaction.
- **Work schedule**. Work schedule is about the job flow setting which can influence the chains of steps to be carried out exactly and efficiently during the work time, and impact job satisfaction depending on whether it is suitable and reasonable. Work schedule includes paces and frequency of operation, such as regular coffee break. Organizations offer flexible work schedule and compressed work schedule can gain much including increased employee job satisfaction, decreased absenteeism and increased productivity(e.g. Krausz, M., Sagie, A., & Bidermann, Y.,

2000; Baltes, B. B., Briggs, T. E., Huff, J. W., Wright, J.A. & Neuman, G. A., 1999).

3.5.2 Intrinsic job characteristics

Intrinsic job characteristics are regarded as the core variables as well as motivators of job satisfaction. Here we listed the main factors as follow:

- **Achievement.** Achievement is one of main things people want from their jobs. That means people can get satisfied when they get success (Herzberg, 1993).
- **Feedback.** It is necessary to provide feedback for employees which allow them to know how well they are doing their jobs (Herzberg, 1993). Feedback could be from supervisors, co-workers and sometimes customers (e.g. nurses and patients). The effective feedback is specific but its function is general especially to job satisfaction. Feedback is closely related with respect and recognition. Individuals at all levels of the organization want to be recognized for their achievements on the job (Peter & Jan, 2003). A study on job satisfaction, stress and burnout in Australian specialist anesthetists shows that poor recognition is the major dissatisfying aspects of the job (Kluger, M.T., Townend, K., & Laidlaw, T., 2003).
- **Responsibility and autonomy.** The JCM predicts that employees in autonomous or self-managing works have higher levels of job satisfaction than in traditionally designed jobs. High autonomy means that employees are trusted by the managers, and employees will trust the managers as well, which makes employees be more satisfied with their jobs (Hackman & Oldham, 1976). Kivimaki et al. (1995) find that job satisfaction is related to the levels of job enrichment (responsibility and autonomy). The nurses occupying highly enriched jobs reported significantly higher job satisfaction. High levels of job satisfaction among nurses are achieved on autonomy (Philip, B., Paul, M., & Ceri, P. 1999).
- **Personal growth.** According to Herzberg (1993), people report job satisfaction when they get promoted. In order to maintain and improve job satisfaction, it is very important to have an open position to employees. Even if there is no space for promotion, support employees by allowing them to pursue further education, which will make them more valuable and more fulfilled professionally. If the job gives

employees an opportunity to become multi-skilled, employees' job satisfaction would increase. That is to say the more diversity of the job will reduce the likelihood of job dissatisfaction. Agho (1993), Muller-Smith (1999) and Liou et al. (1997) reports that promotional opportunity, the potential for growth and self-growth lead to a joyful workplace and a strong sense of accomplishment.

- **Fairness.** Here fairness draws on the principle of equity theory. People not only desire rewards for their own sake, but also concern about the rewards obtained by other people doing similar job (Ellis & Dick, 2003). Thus when people feel they are not treated equally, this inequity will have an effect on their job attitudes. Fairness includes the equity of working condition, distributive and procedural justice (Adams, 1963). Rewards for performance in line with employees' aspiration that are just would bring job satisfaction (Locke, 1976).
- **Job security**. People tend to care about job security which is the state or feeling of being safe and protected. Cornell model investigates the labor market and draws a conclusion that the labor market condition, which directly determines job security, may influence job satisfaction (Hulin et al., 1985). Workers in secure jobs record higher levels of job satisfaction. So job security is one of the major determinants of job satisfaction (Boothby, J. L., & Clements, C. B., 2002).
- **Work value.** Employees tend to prefer to jobs that are meaningful, interesting and challenging. The higher work value is; the higher job satisfaction will be (Hackman & Oldham, 1976).
- **Cooperation with other departments**. This concept is associated with task interdependence, the degree to which the job has impact on the work of others. Study show when other departments rely on work performed by the employee, job satisfaction will be expected; while the employee relies on work flows from other departments, it is negatively related to job satisfaction (Kiggundu, 1983).

3.5.3 Individual characteristics

Truly, to a significant extent, job satisfaction is rooted in individuals' personalities. Here we were interested in the basic demographic characteristics '*which have been a*

likely target for sources of variation in job satisfaction' (Metle, Mesh'al Kh, 2003, 606). Many individual variables associated with nurse job satisfaction have been studied. Those individual variables associated with nurse job satisfaction are summarized as following:

- **Age.** People with different ages show different tendency towards their jobs due to different experiences (e.g. Tourangeau & Cranley 2006; Duchscher & Cowin 2004; Hu Herrick& Allard 2004; Shields& Ward 2001).
- **Educational level** People in diverse educational levels have different knowledge, ability, which leads to variable cognitive trend of their job (Ganzach, 2003).
- **Gender.** Several researches (Beutel & Marini, 1995; Moyes, 2006) show that job satisfaction is gender-based. More important, men hold different views on the importance of job characteristics. They value extrinsic attributes such as salary. On the other hand, women are more likely to seek intrinsic job characteristics such as job security.
- **Position.** Position here not only points to the place one owns but also the title of a technical post one possesses. So position not only means the job characteristic but also special knowledge and skill at some extent. People in different position face different job characteristic and technical requirement, which definitely influence job satisfaction (Tzeng, H.-M. 2002).
- **Tenure**. This scale measures years of experience as a nurse. Job satisfaction can be influenced by tenure due to the different experience, ability and need (Tzeng, H.-M. 2002).
- **Department.** Different department means different working environment. People in different department vary in the feeling job satisfaction under the different working environment, such as goal, interrelationship, salary (Tzeng, H.-M. 2002).
- **Marital status.** Marital status, such as married, divorced, single, affect the cognition of the job satisfaction due to the variable psychosocial health. At the same time, marital quality influences the job satisfaction. For instance, high marital quality is accompanied with high job satisfaction (Krueger, 1996; Williamson, 1996).

3.6 research hypotheses

In this dissertation, we divided our research hypotheses into three parts from different angles. Those three parts are: (1) the relationship between individual characteristics and general job satisfaction; (2) the importance level of intrinsic and extrinsic factors; (3) a comparison between China and Sweden.

3.6.1 The relationship between individual characteristics and nurse job satisfaction

The most frequently studied of the individual characteristics is age. Studies show that nurse job satisfaction is highly related to age (e.g. Tourangeau & Cranley 2006; Duchscher & Cowin 2004; Hu Herrick& Allard 2004; Shields& Ward 2001). Some studies (e.g. Oswald & Warr 1996; Kacmar & Ferris 1989) suggest that job satisfaction is U-shaped in age, with higher levels of morale among young workers but that this declines after the novelty of employment wears off and boredom with the job sets in. Satisfaction rises again in later life as workers become accustomed to their role. In contrast, other studies report a linear positive relationship based on age. The older the nurses, the more satisfied they are with their jobs (e.g. Shields& Ward 2001). Researchers attribute this phenomenon to differences in values, goals, priorities, work ethics, and expectations among generations of nurses in hospitals (Duchscher & Cowin 2004; Hu Herrick& Allard 2004). Thus, it would be valuable to investigate the relationship between age and nurse job satisfaction, positively or negatively, linear or non-linear. We hypothesized the following:

Hypothesis 1. There is a positive linear relationship between nurse job satisfaction and age.

Educational level is another important factor that is related to nurse job satisfaction. Compared with age, gender, tenure and position, observed educational level differences in overall nurse job satisfaction are less studied. However, educational

background has direct impact on nurses. Nurses with different educational levels may do different works, have different status and are paid differently which directly affect their job satisfaction. This is the reason why we related educational level to nurse job satisfaction. Usually it is expected that nurses who hold graduate or post-graduate degree may be less satisfied with their jobs than those with low educational levels (Ganzach, 2003). This suggested the following researchable hypothesis about the relationship between educational level and job satisfaction.

Hypothesis 2. There is a negative linear relationship between nurse job satisfaction and educational level.

In a word, two individual factors of nurse job satisfaction, age and educational level, will be tested.

3.6.2 Different perceptions of factors

Specially, the problem dealt with by this dissertation concerns how nurses rate different factors influencing job satisfaction. Knowing the importance level placed by nurses on certain factors would be meaningful and helpful for managers. Previous theories such as Herzberg two-factor theory (1993) argue that intrinsic factors are more important than extrinsic factors on job satisfaction. Studies on nurse job satisfaction find that intrinsic factors are considered more important than extrinsic factors (e.g. Ngo & Sansgiry 2004; J. Dallender & P. NolanMental 2002).Whether this argument is true or not will also be investigated in this study. Thus, we developed the third hypothesis:

Hypothesis 3. Overall, intrinsic job characteristics would be ranked as the more important influences on job satisfaction while extrinsic job conditions would be ranked as less important by nurses.

To be simple, we selected salary, supervision, workload, working condition and

interpersonal relationship to represent extrinsic job conditions, and achievement, feedback, personal growth, responsibility and fairness to represent intrinsic job characteristics. Those ten factors are drawn from several different theories we discussed above, and are comparatively influential on nurse job satisfaction.

This dissertation is also to examine the relationship between age, educational level and factors of job satisfaction. A number of studies suggest that the importance of job satisfaction attributes is both age-related and education-related. For instance, younger employees tend to value intrinsic factors such as personal growth greater than older employees (Moyes, Williams, & Koch 2006). Individual preferences for intrinsic versus extrinsic aspects of work are significantly related to educational level (Andrisani & Miljus, 1977). In this study, we will examine the perceptions of job attributes (intrinsic and extrinsic) among nurses due to age and educational level. We hypothesized:

Hypothesis 4.1 on nurse job satisfaction, there is a negative relationship between intrinsic job characteristics and age.

Hypothesis 4.2 on nurse job satisfaction, there is a positive relationship between extrinsic job conditions and age.

Hypothesis 4.3 The importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in all age groups.

Hypothesis 5.1 on nurse job satisfaction, there is a negative relationship between intrinsic job characteristics and educational.

Hypothesis 5.2 on nurse job satisfaction, there is a positive relationship between extrinsic job conditions and educational level.

Hypothesis 5.3 The importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in educational levels.

3.6.3 A comparison between China and Sweden

The social information processing theory predicts that factors influencing job satisfaction are different when the social environments, values, and cultures are quite different (Salancik, 1978). While studies of Hulin (1991) and Stone (1992) do not support the social information processing theory. Some studies (Chiu & Kosinski, 1999; Hui & Yee, 1999) suggest a positive link between individualism and job satisfaction, and between collectivism and job satisfaction. In this dissertation we used two samples from two countries. One is from China and the other is from Sweden. Since China and Sweden are different in social cultures and values, it is expected that:

Hypothesis 6.1 Swedish nurse job satisfaction is higher than Chinese nurse.

Hypothesis 6.2 The importance of intrinsic job characteristics on job satisfaction for Swedish nurses is greater than that of Chinese nurses; while the importance of extrinsic job conditions on job satisfaction for Chinese nurses is greater than that of Swedish nurses.

3.7 Summary

The key concept of this dissertation is job satisfaction. A general review of existing theories concerning job satisfaction was conducted. We developed our research model and presented a list of main factors affecting job satisfaction based on the literature review. Finally, we designed our research hypotheses.

4 Empirical framework

In this chapter, we present the empirical method and the research strategy of this study. The contents of the questionnaire and the samples involved in the survey are discussed. Further, we will explain the reliability, validity, and generalisability of this study.

4.1 Research strategy

On the basis of the literature review we have developed our research model. To be able to get the result of the research questions we set up six research hypotheses focusing on the relationship between individual characteristics and general nurse job satisfaction, and on the perception of intrinsic job characteristics and extrinsic job conditions among different nurse groups. These hypotheses were tested through a survey which fits the deductive approach. In this dissertation we used questionnaire as the tool for primary data collection, because a questionnaire is the best way '*to collect descriptive and explanatory data about opinions, behaviours and attributes*' (Saunders et al, 2003, 315). A questionnaire can also cover a large number of populations and data collected through a questionnaire can be coded and analyzed by computer.

This study is a cross-country research on nurse job satisfaction. That means we will conduct the survey both in China and Sweden. Given the different language and nurse system, it is necessary to ensure that the respondents can understand the questionnaire, especially to that ensure nurses in Sweden will not misunderstand the questions asked. Thus, before the test, with the help of Lina Axelsson, the coordinator of the Department of Health Sciences in Kristianstad University, we made a pilot test. She answered the questionnaire and found things that were unclear in the questionnaire. For example, the statement 'Achievement — the feeling of success, recognition, respect that you get from your job' caused problems. This item consisted of three parts:

the feeling of fulfillment and satisfaction you get from your job, recognition from supervisors and respect from co-workers. If those three parts were combined, it would be very difficult for the respondents to answer, therefore threaten the validity and reliability of results. Ms. Axelsson also provided us with much useful information about nurses in Sweden. For instance, in Sweden nurses can be roughly divided into three groups: assistant nurses, registered nurses and special nurses, and each group have different educational levels.

We also made a pilot in China with the help of Ms Yu Jin, an assistant professor of statistics. She suggested we adopt a 5 point scale to measure the variables because it would be easier for the respondents to understand and respond to. She also pointed out that there would be a contamination of the respondents' answers if we divided the questions into parts according to a certain standard, because people may guess what answer will please you. In addition, we found that nurses tended to rate factors a middle point (neutral) rather than give a real evaluation. It also seemed to be some what boring to evaluate all factors using numeral response categories ranging from 1 to 5. Therefore it was necessary to change the response categories from numerals to descriptions, which would be more interesting for the respondents.

After pilot we amended our questionnaire. First, we separated each factor into several sub-items and made each sub-item easier to understand and interpret. Take achievement for example, we measured it with three sub-items: the feeling of success from your job, recognition from supervisors and respect from co-workers. In so doing twelve factors were measured with twenty one sub-items and the questionnaire was clearer and more precise. Second, we changed the 7 point scale into 5 point scale. We did not code every question in the questionnaire. Instead we presented descriptive response categories ranging from 'not important at all', 'not important', 'neutral', 'important', and 'very important.' We believed that by doing so the respondents would think about the questions and answers more carefully.

The questionnaire was designed in English. We translated it into Chinese version when we conducted survey in China. Our tutor, Lisa Källström, helped us translate it into Swedish version for the Swedish survey. Our English teacher, Annika Fjelkner, helped to revise the Swedish versions. Note that the content and structure of the two versions questionnaire was identical. We conducted the survey in a paper-pen way both in China and Sweden. In China, our colleagues handed out questionnaires to nurses in hospitals and collected the data.

4.2 The questionnaire

Many studies on job satisfaction that have developed different questionnaires. The two most extensively validated measures are the Job Descriptive Index (JDI; Smith, Kendall, & Hulin, 1969) and the Minnesota Satisfaction Questionnaire (MSQ; Weiss, Dawis, England & Lofquist, 1967). For our purpose, we developed the questionnaire of this study ourselves. It contained 24 questions. It could be roughly divided into three parts: individual data including age and educational level, the level of general job satisfaction and the importance level of twelve factors (See appendix 1).

We measured *nurse job satisfaction* with one single item. Previous researches on job satisfaction show that the reliability of single-item measurement of job satisfaction is .67 (Wanous, Reichers & Hudy, 1997). The item was 'How satisfied are you with your job in general?' Nurses gave their general evaluation about their job satisfaction on a 5-point scale from very dissatisfied to very satisfied.

We measured *intrinsic job characteristics* with five items. These five items were achievement, feedback, personal growth, responsibility and fairness. Each item was measured with several sub-items. For example, feedback was measured by two sub-items. These sub-items were 'feedback from supervisors' and 'feedback from patients'. We asked the participants to make a choice of the five response categories to indicate their opinions of the importance level of each sub-item. Then we averaged

the scores for the two sub-items to produce a single score for feedback. Finally, we averaged scores for the five items to produce a score for intrinsic job characteristics.

Extrinsic job conditions were also measured with five items. These five items were salary, supervision, workload, working condition and interpersonal relationship. Each item was measured with several sub-items. For example, working condition was measured by two sub-items. These sub-items were 'the equipments used in your hospital' and 'the criticality of your job'. Participants were asked to make a choice of the five response categories to indicate their opinions of the importance level of each sub-item. Then we averaged the scores for the three sub-items to produce a single score for working condition. Finally we averaged scores for the five items to produce a score for extrinsic job conditions.

4.3 The samples

4.3.1 China sample

The sample in China included nurses from three different hospitals, Ningbo Medical Centre (Li Huili Hospital), Ningbo No.1 Hospital, Ningbo No.2 Hospital. These three hospitals are located in the same city, Ningbo, China.

Ningbo Medical Centre (Li Huili Hospital) includes 25 clinical departments and relevant ambulant and emergency clinics as well as sections related to medical technology; the hospital has 780 beds and has received 679,249 outpatients and 20957 inpatients in 2005. Current staff of the hospital totals 994 members, of which 449 are nurses. It is a comprehensive hospital of Class A, Grade 3 (Ningbo Medical Centre annual report, 2005).

Ningbo No.1 Hospital was founded in 1931. It is a comprehensive hospital of Class A, Grade 3, integrating medical service, teaching, scientific research and disease prevention. The hospital has 851 beds. There are presently 1,042 staff members in

total, of which 497 are nurses. There are 17 ward zones, 30 clinical departments, and 12 medical technology departments. In 2005, it has received 1,107,054 outpatients and 21,034 inpatients (Ningbo No.1 Hospital annual report, 2005).

Ningbo No.2 Hospital was founded in 1843, and is one of the earliest Western medicine hospitals in China. It is a comprehensive hospital of Class B, Grade 3, provided with up-to-date medical facilities, intelligent management system and coordinated development of medicine, teaching and scientific research. There are presently 999 staff members in total, of which 426 are nurses. There are 21 clinical departments, and 10 medical technology departments. In 2005, it received 533,039 outpatients and 21,670 inpatients (Ningbo No.2 Hospital annual report, 2005).

All nurses working in these three institutions were the target population for a total of 1372 nurses. The sample size we decided on was 10% of the population. We had a list of nurses in these three hospitals which enabled us to adopt a stratified random sampling technique. The sampling frame was stratified by both age and educational level based on our research questions. We selected 150 nurses to answer the questionnaire.

4.3.2 Sweden sample

Since we study and live in Kristianstad, for the convenience sake, we chose Kristianstad hospital as a sample. Kristianstad hospital is a comprehensive hospital integrating medical service, teaching, scientific research and disease prevention. The hospital has around 300 beds. There are presently 1,564 staff members in total, of which 1,316 are nurses. There are 23 clinical departments, and 10 medical technology departments. In 2005, it has received outpatients 227,379 (include 45,000 emergency patients) and inpatients 19,115 (http://www.skane.se/default.aspx?id=2046).

4.4 Reliability

Reliability refers to the repeatability of research. That is to say, will the same research methods yield the same results on other occasions and will other researchers reach the similar conclusions (Saunders et al, 2003)? Robson (2002) summarizes that there are four threats to reliability: subject or participant error, subject or participant bias, observer error and observer bias.

In order to avoid the participant error and bias, besides the amendment of the questionnaire, when we conducted survey in China, we delivered the questionnaire to nurses before the end of a day of work, and asked them to answer at home so that nurse could think about the questions more causally. The questionnaires were collected the next morning when nurses were at work. In so doing we also avoided the social intervention from co-workers or supervisors in the hospitals. The nurses answered the questionnaires independently. In Sweden, we delivered the questionnaires with the help of, who is the administrator in Kristianstad Hospital. It seemed that the nurses in the hospital were glad to participate in such a survey, which reduced threats to reliability of our research. Furthermore, the questionnaire ensured the anonymity of the respondents. Individual data only included age and educational level.

In China, since the questionnaires were completed by the nurses after work, the respondents might have been affected by their families, but we believed that it was less harmful to the reliability of the study because our focus was on the general nurse attitude towards job and different factors of job satisfaction. To some extent, family is also an important factor of nurse job satisfaction. The high number of sample was another guarantee of reliability.

4.5 Validity

Validity is '*whether the findings are really about what they appear to be about*'

(Saunders, 2003, 101). It is important to get the right information from the survey.

As for our questionnaire, the first part of it was about age and educational level which were the structured questions. These two questions were presumed to be answered with high validity. The others were about relationships between variables such as age and general job satisfaction, educational level and importance level of intrinsic job characteristics. In this regard, the questionnaire design was of critical importance.

4.6 Generalisability

Generalisability refers to '*the extent to which your research results are generalisable*' (Saunders et al, 2003, 102). That is the applicability of a research to other setting, e.g. a large scale of population or other organizations.

In order to generalize about the regularities in nurse job satisfaction, we selected samples of sufficient numerical size. The China sample consisted of three regional hospitals in Ningbo, and the total number of nurses was 1372. We selected 150 nurses at random to be representatives in China. In Sweden we handed out the questionnaires to nurses if they wanted to participate in survey. There are 1316 nurses in Kristianstad Hospital. We collected 46 answers to represent nurses in Sweden.

However, owing to the different level of economic development in various regions, Ningbo, a rather developed region in China, cannot represent other regions. Therefore, nurses in Ningbo hospitals cannot represent Chinese nurses. They can, at most, represent nurses in the southeast regions in China. In Sweden health care is one part of the welfare system which emphasizes equal levels of health care service in the whole country regardless of regional variations. Thus nurses in Kristianstad do not differ much from those in other municipalities so we believed that the Kristianstad sample can be generalized to represent the Swedish nurses. The only weakness in this study may lie in that the data about Swedish nurses collected, may be not large

enough.

4.7 Response rate

In order to get high response rate, our colleagues (they are managers in hospitals) in Ningbo had a meeting with those nurses who would answer the questionnaire and motivated them to participate in this survey. Thanks to our colleagues' hard work, the response rate of China sample was 100%. When we conducted survey in Sweden we adopted a convenience sampling. With the help of Viveca Dettmark, we handed out questionnaires to nurses in Kristianstad hospital. 63 questionnaires were handed out and 46 were received. The response rate was 73%.

4.8 Summary

In this chapter we presented the empirical method. The research strategy of our research was stated. The sample of the nurses and the contents of the questionnaire are discussed. The chapter ended with a discussion about the reliability, validity and generalisability of this study.

5 Results

In this chapter we present the result of the survey. Each hypothesis is statistically tested and we state whether it is accepted or rejected.

Data were entered and processed by using the statistical package for the social sciences (SPSS) software. The demographic information was presented first, followed by the general nurse job satisfaction. Correlation analyses were utilized to test the research hypotheses. From paragraph 5.2 to 5.7 we presented the result of the survey in China at first. A comparison between China and Sweden was conducted at last (paragraph 5.8).

5.1 Age and Educational level

There were two samples in this study, one from China (N=150) and the other from Sweden (N=46). Two dimensions were employed: age and educational level. As far as the Chinese sample was concerned, the distribution of age was of imbalance, although we used the stratified random sampling technique which was expected to increase the representativeness of the sample. The age group 20-39 and 30-39 constituted 38.7% and 31.3% of the total sample size respectively (cumulatively 70%), while respondents aged over 50 only constituted 13.3%. Such a distribution could be explained by the fact that nurses aged 20-39 were the majority in China (Appendix 1). While the distribution of age of the respondents in Sweden shows that the age groups 40-49 and over 50 accounted for more than 60% of the total sample size. Maybe the older nurses are the majority in Swedish hospitals (Appendix 4).

As to the distribution of the educational level, the majority (78.3%) of Chinese respondents held associate degree and diploma. Only 18.7% of participants were

graduated from university (Appendix 4). In Sweden, most of nurses held associate degree or diploma. Nurses holding bachelor degree are the minority (Appendix 4).

5.2 General job satisfaction

Nurse job satisfaction was measured in the survey. The respondents were asked to answer on a scale from 1-5. More than half of respondents (50.7%) in China felt satisfied to neutral about their jobs. 34.7% of them felt somewhat satisfied with their jobs. Only 5 participants (3.3%) were very satisfied with their jobs, and 11.4% reported dissatisfaction about their jobs. In average, the general job satisfaction of Chinese nurses was 3.27 (3=neutral) (SD=0.77, V=0.6) (Appendix 5). This means that Chinese nurses, at least, were not happy with their jobs.

5.3 Hypothesis 1

The first hypothesis measured whether there is a positive linear relationship between age and nurse job satisfaction. In order to test the hypothesis, first we conducted the Pearson Correlation Analysis. Results showed that the false score correlation of -.082 because of Sig. (.318). In theory, correlation is significant at the 0.05 level (2-tailed). Namely, Sig. < 0.05, then there is a virtually linear relationship between two variables. In this case, Sig. = 0.318, there is not a linear relationship between age and nurse job satisfaction (Appendix 6).

The mean values of job satisfaction among different age groups were presented and the results were also shown as a chart in figure 5.1. It seemed that nurse job satisfaction was U-shaped in age, with higher level (*level=3.48*) among young nurses but that this declines sharply (*to 3.02*) when nurses are in their middle age. Satisfaction increases again in later life. Nurses aged 40-49, their job satisfaction rises to 3.16, and when nurses in their 50s, the level of job satisfaction reaches to 3.4.

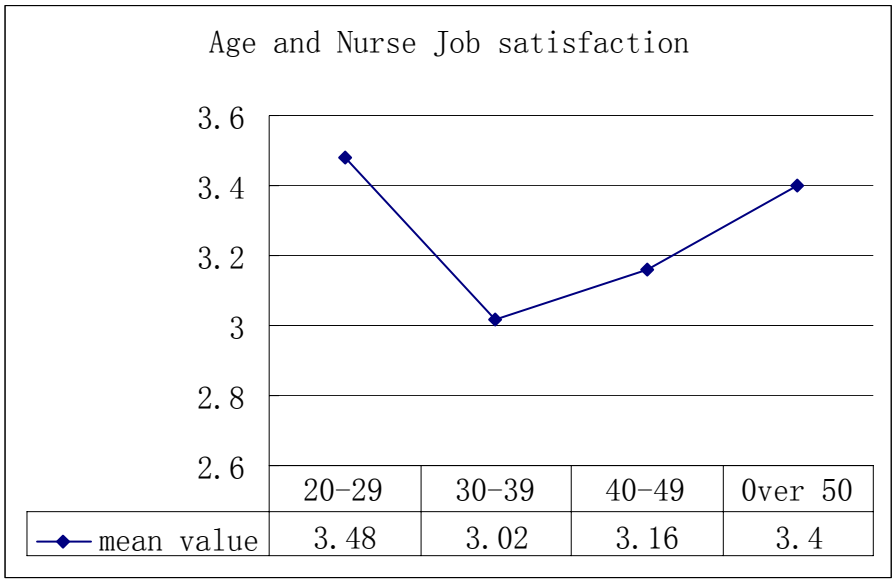

Figure 5.1 Age and Nurse Job Satisfaction

Nurse job satisfaction is related to age, but not positively linear. For overall job satisfaction among nurses, satisfaction with age, a strongly significant U-shape was observed. In a word, the first hypothesis was rejected.

5.4 Hypothesis 2

The second hypothesis concerned the relationship between nurse job satisfaction and educational level. We assumed that there is a negative linear relationship. Consequently, the higher educational level nurses hold, the more dissatisfied they will be with their jobs.

A Pearson Correlation Analysis showed the result. Although Pearson Correlation was -.021, the Sig. was very high (.796). This means that the linear correlation does not exist virtually (Appendix 7). Figure 5.2 illustrated the inverted U-shaped relationship between nurse job satisfaction and educational level. Nurses holding diploma felt least satisfied (Mean value =3.24), less than the average mean of the total sample (Mean value = 3.27); then the level of job satisfaction increased with the improvement of

educational, it reached to its maximum of 3.3 at associate degree and more than the average level (3.27); job satisfaction declined again when nurses held bachelor degree to 3.25, also lower than the average level.

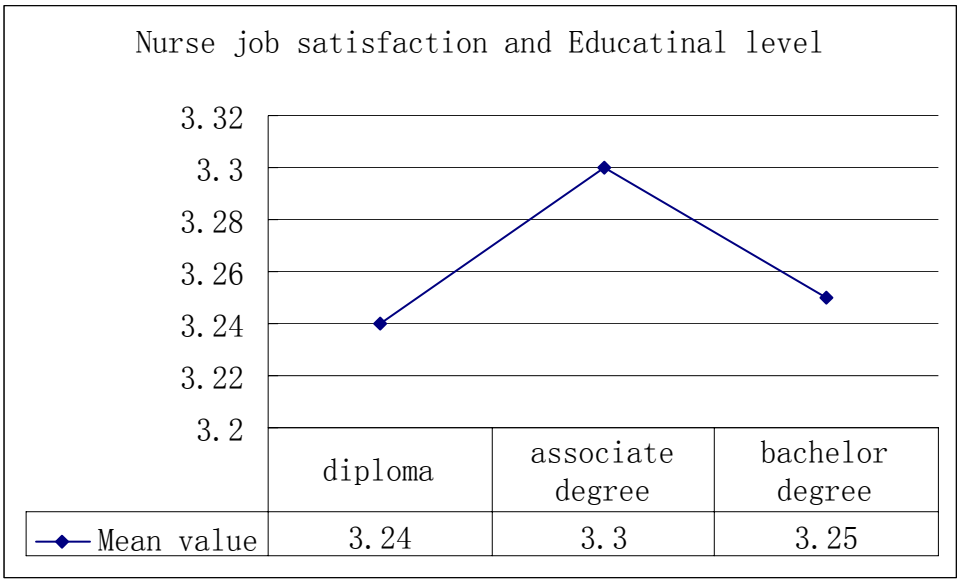

Figure 5.2 nurse job satisfaction and educational level for China sample

Compared with the relationship between nurse job satisfaction and age (U-shaped), the relationship between nurse job satisfaction and educational level is inverted U-shaped. Nurses holding associate degree felt more satisfied with their jobs than those holding diploma and bachelor degree. Thus, the second hypothesis was also rejected.

5.5 Hypothesis 3

To find out whether the intrinsic job characteristics are more important than extrinsic job conditions, we conducted a paired sample T-test. First we calculated the mean values of each sub-item, then the mean values of each factor were calculated according to its component, finally we produced the mean values of intrinsic job characteristics and extrinsic job conditions (Appendix 8).

As far as intrinsic job characteristics were concerned, it was represented by five factors including achievement, feedback, personal growth, responsibility and fairness. Extrinsic job conditions were also represented by five factors including salary, supervision, workload, working condition and interpersonal relationship. A paired sample T-Test indicated that there was no significant difference in the importance level between intrinsic job characteristics and extrinsic job conditions (Appendix 8). Therefore, the third hypothesis was also rejected.

5.6 Hypothesis 4

To investigate the relationship between age and the intrinsic job characteristics and extrinsic job conditions, we hypothesized that there is a negative relationship between intrinsic job characteristics and age (hypothesis 4.1), a positive relationship between extrinsic job conditions and age (hypothesis 4.2), and the importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in all age groups (hypothesis 4.3).

5.6.1 Age and intrinsic job characteristics

A Pearson correlation Analysis was used to measure the relationship between age and intrinsic job characteristics. Results indicated a significant negative correlation between age and intrinsic job characteristics (r = -.189, Sig. =.020) (Appendix 9). It seemed that hypothesis 4.1 was confirmed.

5.6.2 Age and extrinsic job conditions

A Pearson Correlation Analysis (Appendix 9) showed that correlation between age and extrinsic job condition was not significant (r = -.118, Sig. = .15). Thus, hypothesis 4.2 was rejected.

5.6.3 The importance level in age

To find out whether the importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in all age groups, we conducted a

paired sample T-Test (Appendix 9).

We could see from the figure 5.3 that the importance level of intrinsic job characteristics was greater than the importance level of extrinsic job conditions for age group 20-29 and 40-49. For age group 30-39, the importance level of intrinsic job characteristics was lower than the importance level of extrinsic job conditions. A significant difference could be detected only in the age group over 50 (Appendix 9). Generally, the importance levels of intrinsic job characteristics and extrinsic job conditions were rather similar in all age groups. The hypothesis was rejected.

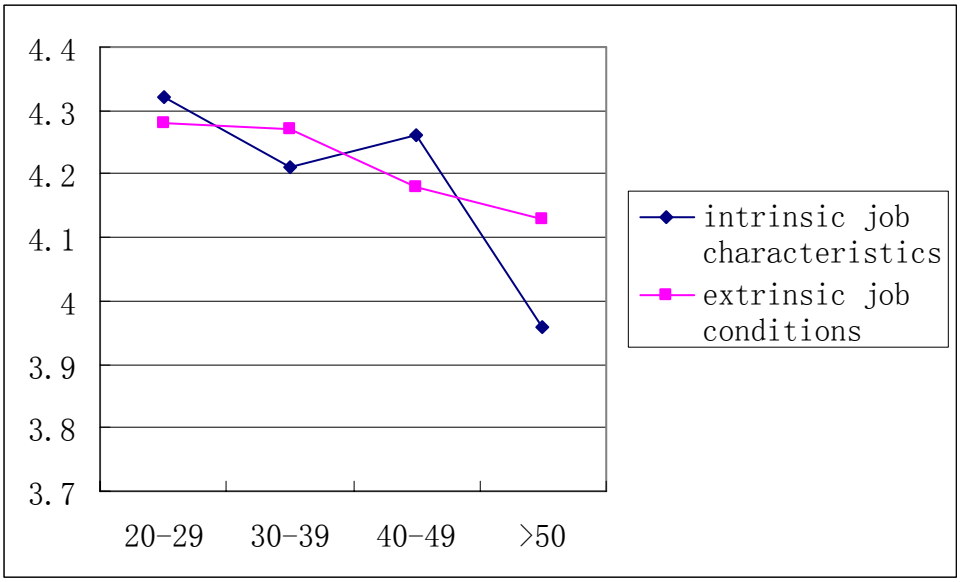

Figure 5.3 the importance level of two factor groups in age groups

5.7 Hypothesis 5

Hypothesis 5 was to examine the relationship between educational level and the intrinsic job characteristics (hypothesis 5.1), the relationship between educational level and extrinsic job conditions (hypothesis 5.2) and whether nurses with different educational levels hold different opinions about intrinsic job characteristics and extrinsic job conditions (hypothesis 5.3).

5.7.1 Educational level and intrinsic job characteristics

A Pearson Correlation Analysis was shown in the Appendix 10. It seemed that there was a negative relationship between educational level and intrinsic job characteristics, but the correlation was false (Sig. >.05). Thus, hypothesis 5.1 was not confirmed.

5.7.2 Educational level and extrinsic job conditions

Hypothesis 5.2 was also tested by a Pearson Correlation Analysis (Appendix 10). Similarly, because of the same reason (Sig. > .05), the correlation was denied. The hypothesis was also rejected.

5.7.3 The importance level in educational level

To investigate whether the importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in educational levels, a paired sample T-Test was conducted (Appendix 10).

We could see from the figure 5.4 that the importance level of intrinsic job characteristics was greater than the importance level of extrinsic job conditions for nurses holding bachelor degree. On the other hand, for those holding diploma, the importance level of intrinsic job characteristics was lower than the importance level of extrinsic job conditions. It also should be noted that nurses holding associate degree almost held the same perception of intrinsic job characteristics and extrinsic job conditions. Therefore, the hypothesis was rejected.

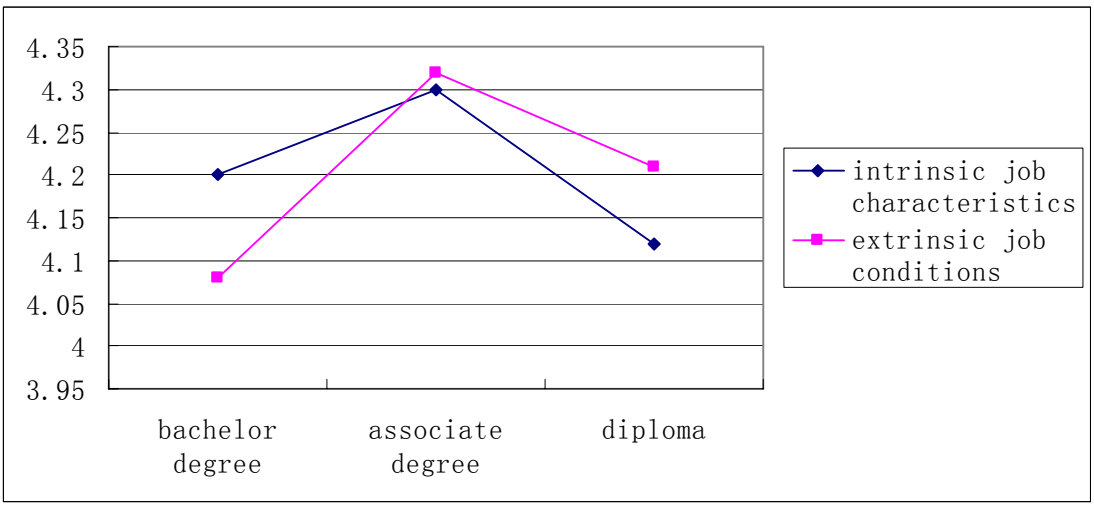

Figure 5.4 the importance level in educational level

5.8 Hypothesis 6

Because of the small size of Swedish sample, it was meaningless to test all hypotheses like China sample. Our intention was to find some significant differences on nurse job satisfaction between two countries. Mainly we focused on the level of nurse job satisfaction (hypothesis 6.1), and the importance level of intrinsic job characteristics and extrinsic job conditions (hypothesis 6.2).

5.8.1 Different levels of nurse job satisfaction in tow countries

Different social condition may lead to different perception on job satisfaction. Is Swedish nurse job satisfaction higher than Chinese nurse? Here, both Chinese sample and Swedish sample were treated as independent samples. Thus, we conducted an independent samples test (Appendix 11).

From the results, we found that the mean value of nurse job satisfaction in China was 3.27, rather lower than it in Sweden (mean value, 4.60) (Appendix 5). T-test confirmed that nurse job satisfaction was significantly different between China and Sweden, and the latter was higher than the former. Thus, our hypothesis was accepted.

5.8.2 Different perceptions of intrinsic and extrinsic factors

Hypothesis 6.2 assumed that the importance of intrinsic job characteristics on job satisfaction for Swedish nurses is greater than that of Chinese nurses; while the importance of extrinsic job conditions on job satisfaction for Chinese nurses is greater than that of Swedish nurses.

The job satisfaction level of Swedish nurses was 4.39.The independent sample T-test was conducted to test the hypothesis (Appendix 11). Sig. was a slightly higher than 5%. That means that there is only a slight difference in intrinsic factors between two groups. However, it does not mean that the hypothesis was confirmed. T-test was also used to test the extrinsic job conditions. Similarly, T-test analysis rejected the hypothesis. Thus, Chinese nurses and Swedish nurses place the same importance on both intrinsic job characteristics and extrinsic job conditions.

5.9 Summary

In this chapter the results of the survey were presented. All data were processed by SPSSS. The answers for each hypothesis were illustrated by tables and diagrams combined with a describing text. Table 5.1 summarized our findings.

Table 5.23 Summary of hypotheses

Hypothesis	Hypothesis accepted	Hypothesis rejected
There is a positive linear relationship between nurse job satisfaction and age.		×
There is a negative linear relationship between nurse job satisfaction and educational level.		×
Overall, intrinsic job characteristics would be ranked as the more important influences on job satisfaction while extrinsic job conditions would be ranked as less important by nurses.		×
On nurse job satisfaction, there is a negative relationship	×	

between intrinsic job characteristics and age.		
On nurse job satisfaction, there is a positive relationship between extrinsic job conditions and age.		×
The importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in all age groups.		×
On nurse job satisfaction, there is a positive relationship between intrinsic job characteristics and educational.		×
On nurse job satisfaction, there is a negative relationship between extrinsic job conditions and educational level.		×
The importance level of intrinsic job characteristics is greater than the importance level of extrinsic job conditions in educational levels.		×
Swedish nurse job satisfaction is higher than Chinese nurse.	×	
The importance of intrinsic job characteristics on job satisfaction for Swedish nurses is greater than that of Chinese nurses; while the importance of extrinsic job conditions on job satisfaction for Chinese nurses is greater than that of Swedish nurses.		×

6. Analysis and discussion

In this chapter we analyze and discuss the results of the survey. Conclusions are made and our findings are presented.

6.1 Nurse job satisfaction in age groups

As mentioned in chapter 4, nurse job satisfaction is age-related. But is the relationship, between age and nurse job satisfaction, a simply linear? And if not, is it U-shaped? Hypothesis 1 was set up to answer these questions.

The result from chapter 5 showed that there is not a linear relationship between age and nurse job satisfaction. On the contrary, nurse job satisfaction is U-shaped in age. When we compared the four different age groups we found an interesting phenomenon. The youngest nurses, 20-29, had the highest job satisfaction. While, when nurses were in 30-39 their job satisfaction declined sharply and hit rock bottom. Then, nurse job satisfaction began to rise when they entered into 40-49, and it increased to the higher level in 50-59.

In order to explain the results, we conducted a factor analysis (Appendix 12). Table 6.1 showed three most important factors in age groups, which can help us to do analysis.

Table 6.1 three most important factors in age groups

Age group	number	factor	Mean value
20-29	58	salary	4.55
		fairness	4.50
		responsibility	4.45
30-39	47	fairness	4.55
		salary	4.45
		workload	4.42
40-49	25	fairness	4.56
		responsibility	4.36
		salary	4.36
Over 50	20	relationship	4.35
		responsibility	4.28
		Working conditions	4.20

The reason why age group 20-29 had the highest job satisfaction is an interesting observation. A possible explanation was that this group could be affected by the labor market. It is very hard for graduates, regardless of degree and major, to get a good job in China. Also important, the main choices of students who major in nursing are to be a nurse in hospitals. Otherwise they have little choice to get other jobs. Youngest nurses will be influenced by the labor market when they form their judgment on their jobs. They might feel lucky because they have a good job compared with others, therefore they would feel satisfied with their jobs.

Another reason may be that nurses in 20-29 are well-paid, and they feel fair and share responsibility. From table 6.1, we can see salary ranked as the most important factors for youngest nurses on their job satisfaction. One thing that should be pointed out is that the respondents we selected are from three hospitals (Ningbo Medical Centre, Ningbo No.1 Hospital, and Ningbo No.2 Hospital) in Ningbo, China. Those three hospitals are the three best hospitals in Ningbo. Therefore, on the one hand, it is more difficult to get a nurse job in those hospitals for young graduates. This finding provides support for the Cornell Model (Hulin et al, 1985; Hulin et al, 1991). On the other hand, once young graduates become nurses in those hospitals they would be very satisfied.

Then, why job satisfaction decrease when nurses are in 30-39? For nurses in 30-39, we can see from the table that fairness become the most important factor on job satisfaction. Another change is that workload begins to affect their job satisfaction. Perhaps, nurses in 30-39 are not satisfied with fairness, salary and workload which lead to lowest job satisfaction. And the reality does be this case. First, after more than ten years working, nurses got married. Life has changed a lot. Besides their jobs they should care more about their families, children which would increase physical and mental stress and decrease job satisfaction (*workload and salary*). Second, 30-39 is the golden age for nurses to fulfill their own dreams. For example, nurses may want to get promotion, or become the experts in a certain field. That means they have more

expectations. If their needs cannot be met job satisfaction would decline. Finally, comparisons would be made between nurses themselves and their friends in other profession. Because of high work stress, nurses may feel they pay more and get less (*fairness*).

Job satisfaction rises again when nurses enter into 40-49 and increase to higher level in 50-59. Nurses in 40-49, workload does not affect their job satisfaction any more and salary is not very important. What they need is the fair treatment from the management and to take more responsibilities in work (Table 6.1). In China, those nurses are nurses-in-charge. That means that they are treated fairly and enjoy more responsibilities. Thus job satisfaction increases.

For oldest nurses, relationship was the most important factor on their job satisfaction (Table 6.1). Their expectations have been modified by their own experience and are diminished gradually. That means that oldest nurses will come lower their expectation in many aspects. Furthermore, in China, to improve the physical and metal well-being of older nurses, usually, hospitals will reduce the workload. For example, older nurses will not do service in the intensive care unit (ICU) any more. They are the nurse managers with high professional positions and are respected by young nurses. That is to say, older nurses have a secure job and good payment (it is a rule in China that salary will increase with tenure). In this case, older nurses have no reason to complain about their jobs.

Still, we noticed that job satisfaction of the oldest nurses is lower than it of the youngest nurses. This difference could also be explained by the tough situation of labor market in China.

6.2 Educational level and nurse job satisfaction

Whether nurse job satisfaction is significantly associated with educational level is the

second hypothesis we set up. Results showed that nurse job satisfaction and educational level is not linear related. Nurse job satisfaction was inverted U-shaped in educational level (Figure 5.2). Three different groups with different educational levels reported different levels of job satisfaction. It should be noted that the levels of job satisfaction of nurses holding bachelor degree and those holding diploma are lower than the average level.

Why nurses holding associate degree report the highest job satisfaction? Why nurses holding bachelor degree and diploma had a lower level of job satisfaction? Factor analysis was also done to answer the questions. Table 6.2 presented the three most important factors in educational levels.

Table 6.2 Three most important factors in educational levels

Educational level	Number	Factor	Mean value
Bachelor degree	28	fairness	4.36
		salary	4.32
		responsibility	4.30
Associate degree	72	fairness	4.55
		salary	4.54
		responsibility	4.44
diploma	50	fairness	4.42
		responsibility	4.38
		relationship	4.37

It is very interesting that three most important factors on job satisfaction for nurses with bachelor degree and those with associate degree are exactly the same. Why their job satisfaction was so significantly different? The possible reason may lie in different expectations. Nurses holding bachelor degree graduated from university, and they expect high salary and responsibility. However, in China, all nurses, regardless of degree, do the same work. Unlike in Sweden, nurses are categorized into three groups: licensed nurse, registered nurse and specialized nurse. Different types of nurse do different work in hospitals. Thus, nurses with bachelor degree will feel unfair. Besides, nurses with associate degree are the majority in hospitals, while nurses with bachelor degree are the

minority. Under such kind of circumstance, nurses with bachelor degree may not have much word in work which makes them even dissatisfied. From Table 6.2, we also found that although three most important factors on job satisfaction are exactly the same, the mean values are quite different. This means that the reasons to lower job satisfaction of nurses holding bachelor degree are various. Workload, achievement, and feedback also affect their job satisfaction (Appendix 13).

Nurses holding diploma reported lowest job satisfaction. According to Swedish nurse category, they are equivalent to the licensed nurses. In China, educational level is very important for individuals in the case of job-hunting, promotion, salary, and so on. Compared with nurses holding bachelor degree or associate degree, nurses holding diploma have less chance of promotion and further education. Also important, relationship becomes one of the most important factors on job satisfaction. This indicates that nurses with diploma may be not satisfied with interpersonal relationship in hospitals, both with coworkers and doctors. They may have a feeling of not being respected by others. In this case, it is not a surprise that low job satisfaction occurs among nurses holding diploma.

6.3 Intrinsic job characteristics and extrinsic job conditions

As shown in chapter 3, many theories argue that intrinsic job characteristics are more important than extrinsic job conditions. Results from survey did not support the argument. T-Test showed that the mean values of intrinsic job characteristics and extrinsic job conditions are not significantly different (Chapter 5, paragraph 5.5). Nurses ranked intrinsic job characteristics and extrinsic job conditions as the same important on their job satisfaction. Why is that?

First, as we emphasized repeatedly, job satisfaction is a global concept that comprises various aspects. For the convenience of research, we separated job satisfaction into intrinsic and extrinsic elements as many researchers do. However, such a category is

somewhat arbitrary. For example, interpersonal relationship can be categorized as the intrinsic factor or the extrinsic factor. In addition, the choice of factors would affect the result. In this study, to be simple, we selected ten factors to represent intrinsic job characteristics and extrinsic job conditions (each five factors). Therefore, the methodology of this study may influence the result.

More important, job satisfaction factors vary with jobs. For instance, in Herzberg's study, achievement was the most important factors for accountants on their job satisfaction (Herzberg, 1993). While in our study, fairness was the most important factor for nurse job satisfaction. Table 6.3 showed the mean values of the importance level of ten factors. As far as intrinsic job characteristics are concerned, fairness and responsibility are most important; on the other hand, salary is the most important factor of extrinsic job conditions. To nurses, both intrinsic and extrinsic factors are important.

Table 6.3 mean values of ten factors

Extrinsic	Mean Value	Intrinsic	Mean Value
Salary	4.41	Achievement	4.11
Supervision	4	Feedback	4.11
Workload	4.31	Personal growth	4.03
Working conditions	4.21	Responsibility	4.39
Interpersonal relationship	4.26	Fairness	4.47

Besides, an interesting observation was that nurses in China pay more attention to extrinsic job conditions than intrinsic job characteristics. A possible reason is that nurses face with too much workload. And they want more salary. Maybe, when those needs are met, the importance of extrinsic job conditions will lower.

6.4 Different perception in age groups

To find out how the importance levels of extrinsic job conditions and intrinsic job characteristics vary with age, three hypotheses were tested. The results were quite different from each other.

6.4.1 The relationship between age and intrinsic job characteristics

The results showed that there is a negative relationship between age and intrinsic job characteristics. The older nurses are, the less important intrinsic job characteristics are. To explain this phenomenon, we should know that intrinsic job characteristics are regarded as motivators such as achievement, feedback, and fairness. Those factors are individuals' feeling from their jobs which is closely related to individuals' value and percept. Younger nurses have their own dream about jobs and lives, and they may place greater importance on intrinsic job characteristics than older nurses. As for older nurses, they have got used to their jobs and do not dream too much. What older nurses need are good working conditions, good relationships with others, and heavy payment. Physical and mental changes

6.4.2 The relationship between age and extrinsic job conditions

The results showed that there is no positive relationship between age and extrinsic job conditions. Because extrinsic job conditions are the basic things to maintain employees to work, such as salary, and working conditions, those factors cannot be ignored by managers at anytime. From the perspective of nurses, extrinsic job conditions are always important when they are young or old. Thus, the importance level of extrinsic job conditions does not fluctuate very much with age (See Figure 5.3).

6.4.3 The importance level in age groups

In paragraph 5.6.3, a paired sample T-test has shown that, in general, the importance levels of intrinsic job characteristics and extrinsic job conditions were rather similar in all age groups. However, there still is an exception. A significant difference could be detected in the age group over 50 (Appendix 5). This finding is consistent with the

result we mentioned in paragraph 5.6.1 and 5.6.2. The importance level of extrinsic job conditions did not change too much with age (mean value from 4.22 to 4.15, 1.6% decreased), while the intrinsic job characteristics decreased sharply (mean value from 4.27 to 3.91, 8.4% fell). The explanations in paragraph 6.4.2 and 6.4.3 also can be applied here.

6.5 Different perception in educational level

Similarly, three hypotheses were developed to investigate the relationship between educational level and intrinsic and extrinsic factors.

6.5.1 The relationship between educational level and intrinsic job characteristics

Results showed that no positive relationship was detected between educational level and intrinsic job characteristics. From Figure 5.4 we can see the relationship between intrinsic job characteristics and educational level was inverted U-shaped. Compared with nurses who hold bachelor degree or associate degree, less importance on intrinsic job characteristics was placed by nurses holding diploma. The possible reason may be that nurses holding diploma is lack of chance to learn, to be promoted, and to take great responsibility. As we has mentioned before, usually, the educational level is the main determinant of personal growth. Being aware of this rule, nurses holding diploma would act realistically. Thus, intrinsic job characteristics are less important for them.

Strangely, the importance level of intrinsic job characteristics for nurses holding bachelor degree was a little bit lower than those holding associate degree. A reasonable explanation is that nurses holding associate degree are the majority in hospitals, nurses holding bachelor degree are also undervalued or unappreciated.

6.5.2 The relationship between educational level and extrinsic job conditions

Results did not indicate that nurses with higher educational level place less

importance on extrinsic job conditions. There was no linear relationship between educational level and extrinsic job conditions. The reason is very simple. Because extrinsic job conditions are people's basic needs, they are of the same importance for everyone.

6.5.3 The importance level in educational level

When it comes to the question that whether the importance level of intrinsic job characteristics is greater than that of extrinsic job conditions in all educational levels, results showed that for nurses holding associate degree, the two importance levels were almost the same. While nurses holding bachelor degree had quite different view from those holding diploma. The former viewed intrinsic job characteristics more important than extrinsic job conditions; the latter held the contrary view.

Why is that? From the above analysis, we can conclude that nurses holding bachelor degree hold different expectation from those holding diploma at work. The former pay more attention to achievement, feedback, responsibility and personal growth. On the contrary, the latter focus more on salary, working conditions and other extrinsic factors.

6.6 Differences between China and Sweden

Results showed that there were significant differences on nurse job satisfaction between China and Sweden.

6.6.1 Different levels of nurse job satisfaction

Job satisfaction among Swedish nurses was much higher than that of Chinese nurses. What are the reasons? First, workload is an important reason. When we compared workload between Swedish nurses and Chinese nurses, a significant difference could be seen (Table 6.4). For example, Kristianstad hospital received 227379 outpatients and 19115 inpatients in 2005, on average, each nurse received 173 outpatients and 15

inpatients, while in 2005, Ningbo No. 2 hospital received 533039outpatients and 21670 inpatients, on average, each nurse received 1251 outpatient (*7 times much than Swedish nurse*) and 51 inpatients (*3 times much than Swedish nurse*). Under such a heavy workload, nurses in China would feel tired or bored. Therefore, their job satisfaction would be in a lower level.

Table 6.4 workload in four hospitals

Hospital	Nurse	Outpatients in 2005	Inpatients in 2005	Outpatients per nurse	Inpatients per nurse
Li Huili hospital	449	679249	20957	1513	47
Ningbo No.1 hospital	497	1107054	21034	2227	42
Ningbo No.2 hospital	426	533039	21670	1251	51
Kristianstad hospital	1316	227379	19115	173	15

Second, the social status between Chinese nurses and Swedish nurses are totally different. In Sweden, nurses are public servants employed by the governments. However, Chinese nurses are health care employees. This means job security for Swedish nurses are higher than Chinese nurses. Lower job security would bring higher work stress on Chinese nurses. Thus, job satisfaction among Chinese nurses is lower than Swedish nurses.

The third reason may lie in different ideas about nurse management. In Kristianstad hospital, the managers pay more attention to nurses' mental health. They believe that it is very important to make nurses happy at work if the hospital wants to provide good health care for patients. In order to reach this goal, Kristianstad hospital has

adopted many effective measures. For example, nurses can enjoy flexible schedule and good working conditions. For Chinese nurses, they must work in three shifts. The ideas of nurse management in China still stay at how to improve productivity, rather than how to motivate nurses.

6.6.2 Same perceptions of intrinsic and extrinsic factors

Although the level of job satisfaction was quite different between Chinese nurses and Swedish nurses, both groups placed the same importance on intrinsic and extrinsic factors of job satisfaction.

A possible reason may be the choice of factors on job satisfaction. For the convenience sake, we selected ten factors, which were divided into two groups to represent intrinsic job characteristics and extrinsic job conditions respectively. Those ten factors are proved to be important to job satisfaction by many researches. In this case, it is normal that nurses give the same score to intrinsic and extrinsic factors. In addition, the design of the questionnaire may matter. Rather than a 7-point scale, we adopted 5-point scale which would decrease the different level of factors. Thus, the difference between intrinsic factors and extrinsic factors would appear to be low.

Besides, another explanation may be that Chinese nurses and Swedish nurses are not quite different. They have the same needs in spite of different working conditions, different culture, and different social status.

7. Inference

The final chapter summarizes the dissertation and concludes our findings. We present the managerial implication. Suggestions for further research are also discussed.

7.1 Summary of the dissertation

Job satisfaction is 'an old friend' in the research of organizational behavior. Since 1930s, efforts have been made to find out what affects employees' job satisfaction and to find a solution to improve employees' job satisfaction. It has been the common sense that employees' job satisfaction is closely related to their performance. In other words, people who are satisfied with their jobs tend to perform better. However, this 'old friend' looks quite different among different professions. Nurse job satisfaction is one of the main fields.

With the development of the economy in China, the demand of the good quality of health care is increasing now. The number of both outpatients and inpatients hospitals received has reached a historical record. People needs more and better nursing care in hospitals. On the other hand, with the reform of the health care system, Chinese hospitals begin to react to a very competitive marketplace, which in turn forces hospitals to reduce costs in many cases, thus, nurse job satisfaction is not high in the list of priorities. Chinese nurses work under high workload and stress, they are not satisfied with their jobs. Many studies on Chinese nurse job satisfaction have shown that ignoring nurse job satisfaction will only be detrimental to health care.

When many studies are concentrating on how Chinese nurses feel about their jobs and what influence nurse job satisfaction, we turned our attention to another angle: how nurses perceive job satisfaction factors. This topic has rarely been examined. Many researches use the interview and ask nurses to describe a specific circumstance when they feel extremely satisfied with their jobs to find out the job satisfaction factors.

This method is effective but results are in conflict. In our study, first we conducted a literature review about job satisfaction and summarized a list of job satisfaction factors; second, since all factors will affect nurse job satisfaction more or less, we divided those factors into three groups (intrinsic job characteristics, extrinsic job conditions and individual characteristics) based on the literature review, our intention is to examine the importance level of intrinsic job characteristics, extrinsic job conditions. In addition, we added two demographic variables (age and educational level) to the research to test the relationship between age and education level and job satisfaction, and the relationships with intrinsic job characteristics as well as extrinsic job conditions. Besides, a comparison was made between China and Sweden to find out the differences in nurse job satisfaction. Six hypotheses were set up. Data were collected through a questionnaire handed out to Chinese nurses (from three hospitals in Ningbo) and Swedish nurses (from Kristianstad hospital), and analyzed by the computer program SPSS. Results showed the hypotheses either accepted or rejected. Finally, findings were discussed and the possible explanations were given.

7.2 Findings

If we have to describe our findings with one sentence, we would like to say: an old friend with new face. As we mentioned above, nurse job satisfaction is not a brand new topic. Many studies have been conducted from which many conclusions have been drawn. Some conclusions have been regarded as the truth. For example, it is argued that intrinsic factors are more important than extrinsic factors on nurse job satisfaction. Unfortunately, this argument is not supported by our findings. Although some previous theories may be true among other professions, as far as nurse job satisfaction is concerned, it has its own face, even new face. Here, we summarized our findings as follows:

First, this study has found that both age and educational level are related to nurse job satisfaction. However, age and nurse job satisfaction are U-shaped related, and

educational level and nurse job satisfaction are inverted U-shaped related. Age differences in nurse job satisfaction are great. The youngest Chinese nurses have the highest job satisfaction mainly due to the labor market where graduates cannot easily get a job. Therefore, once they get jobs in hospitals they would be very satisfied compared with others under unemployment. Job satisfaction decreases shapely when nurses are in 30-39. For those middle age nurses, the novelty of employment has worn off and boredom with the job has set in after more than ten years working in hospitals. More important, their lives have changed a lot. Besides their jobs they should care more about their families, children which would increase physical and mental stress and decrease job satisfaction. Nurse job satisfaction increases steadily up to retirement. Most of Chinese nurses in 40-49 are nurses-in-charge. That means that they share more autonomy and responsibility in work which are the important factors on job satisfaction. While for oldest nurses, the workload allotted to them are much less than that to other age groups, which reduces the work stress. What is most important for oldest nurses is that they have lower expectation in many aspects. In this case, oldest nurses report higher job satisfaction.

Educational level is another variable of nurse job satisfaction. our study shows that three different groups with different educational levels reported different levels of job satisfaction. Especially, the levels of job satisfaction of nurses holding bachelor degree and those holding diploma are lower than the average level. To explain the results, Locke (1976) value-percept theory is appropriate. Nurses with different educational levels may have different expectations. Nurses holding bachelor degree want more while their needs are not met very well. The reasons nurses holding diploma report lowest job satisfaction may be interpreted by bad interpersonal relationship.

Second, intrinsic job characteristics are as important as extrinsic job conditions on nurse job satisfaction. This finding seems to be contrary to many theories which emphasize on intrinsic factors more than extrinsic factors on job satisfaction.

Observation from the results in this study even shows that Chinese nurses pay more attention to extrinsic factors. Except for the influence of the methodology, we can conclude that job satisfaction is a global concept that comprises various aspects. Furthermore, people are different. Nurses' needs are also different from others' such as accountants, teachers and steel workers. Besides, according to Maslow's hierarchy of needs (1943), extrinsic job conditions are mostly the basic needs. On account of bad working conditions in Chinese hospitals, it is not a surprise that Chinese nurses focus more on extrinsic factors. In general, our conclusion is that both extrinsic factors and intrinsic factors should be emphasized on nurse job satisfaction.

Third, age and intrinsic job characteristics are negatively correlated, while age and extrinsic job conditions are not linearly related. In addition, intrinsic job characteristics and extrinsic job conditions show the same importance level among different age groups except for the age group over 50. It is true that young nurses have more expectation of personal growth, promotion, and achievement (intrinsic factors) than old nurses. While extrinsic job conditions are the basic things for nurse job satisfaction regardless of age. One thing should be noted is that nurses in age over 50 rank extrinsic job conditions more important than intrinsic job characteristics.

Fourth, educational level does not affect nurse perceptions of the importance level of both intrinsic job characteristics and extrinsic job conditions. There is no linear relationship between educational level and intrinsic job characteristics, and between educational and extrinsic job conditions. Nurses with different educational level perceive extrinsic job conditions as important as intrinsic job characteristics. This finding is consistent with the second finding. The explanation is also the same.

Finally, although Chinese nurses place the same importance level of job satisfaction factors as Swedish nurses do, the level of job satisfaction are quite different between those two groups. This means that both Chinese nurses and Swedish nurses have the same needs on job satisfaction. The different job satisfaction levels can be explained

by that those needs or factors Chinese nurses regarded as the important are not met in work. It is Chinese hospitals managements' responsibility to improve nurse job satisfaction.

7.3 Managerial implication

This dissertation provides a lot of useful information for the hospitals managements. First, as for nurse job satisfaction, managements may find there are many factors influencing job satisfaction. Therefore, they can understand every nurse are different and adopt effective measures to improve nurse job satisfaction. Second, extrinsic job conditions are very important. Managements in Chinese hospitals should pay more attention to extrinsic factors if they want to motivate nurses in work. Furthermore, individual characteristics also affect nurse job satisfaction. As far as age and educational level are concerned, managements should know clearly what nurses want from their jobs among different age groups or different educations. Otherwise they would be blind in management.

A comparison study indicates that nurses have the same perception of job satisfaction factors regardless of different culture, value and other conditions. The significant difference is in the job satisfaction level. Thus, managements in Chinese hospitals can get clues from this study and find out why Chinese nurses are not very satisfied with their jobs.

7.4 Further research

Although the findings in this study were interesting and valuable, there is a great space for further research. First, as far as individual characteristics (the demographic variables) on nurse job satisfaction are concerned, it would be more interesting to add other variables such as department, tenure, martial status and professional position. It also would be valuable to find out the relationships between those demographic factors and nurse job satisfaction, linear or non-linear, positive or negative, and how

important those factors are on nurse job satisfaction. The more information we get the more understanding will be on nurse job satisfaction.

Second, this study mainly focused on the importance level of job satisfaction attributes. However, it would be more meaningful to investigate how nurses feel satisfied with those factors at work, intrinsic job characteristics and extrinsic job conditions. Knowing the importance level placed by nurses on certain factors does be meaningful for managers, on the other hand, this knowledge would be even more useful if managers know how nurses perceived that those factors were being met in reality. Comparing importance level of factors on nurse job satisfaction with the perceived level of those factors is a good idea to do research.

Third, from the cross-country study perspective, it is very interesting to find out whether culture, economic condition, and social system affect nurse job satisfaction. Since we have found that both intrinsic job characteristics and extrinsic job conditions are the same important for Chinese nurses and Swedish nurses, then the significant difference in job satisfaction level becomes the central problem. For this purpose, we can compare the perceived level of job satisfaction factors between two groups, to see to what extent those factors are met by hospitals. Another way to get the answer is to examine the cultural, economic, and social differences between two countries.

In a word, nurse job satisfaction is a complicated topic which can be investigated from many aspects. Our findings are only the one part.

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Appendices

Appendix 1

Questionnaire (Chinese version)

影响护士工作满意度因素重要性调查问卷

您好：

非常感谢您能够参与我们对影响护士工作满意度因素重要性的调查问卷，这份问卷总共包含 24 个问题，大约需要花费您 5 分钟时间。请在您认为最合适的方格内打勾“√”：

您的年龄：20 岁以下☐ 20 – 29 岁☐ 30 – 39 岁☐ 40 – 49 岁 ☐ 50 岁以上☐

您的学历是：大学及以上☐ 大专☐ 中专☐ 中专以下☐

您对护士工作总体的态度是：

非常不满意 ☐ 不满意 ☐ 一般 ☐ 满意 ☐ 非常满意☐

请您对下列因素影响您对护士工作满意度的重要性程度进行评估，并在您认为最合适的方格内打勾“√”：

因素	*非常不重要*	*不重要*	*一般*	*重要*	*非常重要*
1.工作成就感	☐	☐	☐	☐	☐
2.上级的认同和肯定	☐	☐	☐	☐	☐
3.同事的尊重	☐	☐	☐	☐	☐
4.上级对你工作的反馈	☐	☐	☐	☐	☐
5.病人对你工作的反馈	☐	☐	☐	☐	☐
6.晋升职务和职称	☐	☐	☐	☐	☐
7.继续培训教育的机会	☐	☐	☐	☐	☐
8.自我的事业发展	☐	☐	☐	☐	☐
9.工作责任	☐	☐	☐	☐	☐
10 工作自主性和独立性	☐	☐	☐	☐	☐
11 公平感	☐	☐	☐	☐	☐
12 工资	☐	☐	☐	☐	☐
13 医院对你工作的监管	☐	☐	☐	☐	☐
14 医院的管理战略	☐	☐	☐	☐	☐
15 医院整体的氛围	☐	☐	☐	☐	☐
16 工作量	☐	☐	☐	☐	☐
17 仪器设备配置和使用	☐	☐	☐	☐	☐
18 工作的风险程度	☐	☐	☐	☐	☐
19 与医生的关系	☐	☐	☐	☐	☐
20 与同事的关系	☐	☐	☐	☐	☐
21 与病人的关系	☐	☐	☐	☐	☐

Appendix 2

Questionnaire (English version)

Business school, Kristianstad University, Sweden

Nurse Job Satisfaction Survey

Thank you for your participation in this survey.

We are the students at Kristianstad University and we write a master dissertation about nurse job satisfaction both in China and Sweden. The purpose of survey is to find the main factors affecting nurse job satisfaction in hospitals.

The questionnaire is comprised of 24 questions, please answer all of them. It will take you approximately 5 minutes to complete the questionnaire. Your help is critical to us. You are ensured anonymity and your participation is completely voluntary.

If you have any question, please e-mail us at nelssonrobert_731108@hotmail.com. Our mobile phone number is 0738-590711.

Thank you again for your participation.

Wendy Bob Yolande

Nov. 2006

Year of birth:_____

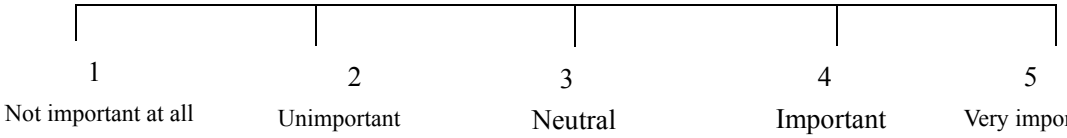
You are: licensed nurse☐ registered nurse☐ specialized nurse☐

How satisfied are you with your job in general?

1. Very dissatisfied☐ 2. Somewhat dissatisfied☐ 3.Neutral☐

4. Somewhat satisfied☐ 5. Very satisfied☐

To what extent are the following factors important to your job satisfaction? Please select a number (make a "× "), using the 5 point scale ranging from 1(not important at all), 3(Neutral), to 5 (very important).



No	Factors: how important they are:	1	2	3	4	5
1	The feeling of fulfillment and satisfaction you get from your job					
2	Recognition from supervisors					
3	Respect from co-workers					
4	Feedback from supervisors					
5	Feedback from patients					
6	Promotion					
7	Opportunities for further learning e.g. professional training					
8	Career development					
9	Responsibility allotted to you					
10	Flexibility and independence allowed					
11	The feeling of being treated equally					
12	Salary					
13	The rules and routines of supervision					
14	The comprehensive goal and guideline in your hospital					
15	The organizational climate					
16	The quantity of work allotted to you (workload)					
17	The equipments used in your hospital					
18	The criticality					
19	The relationship with doctors					
20	The relationship with co-workers					
21	The relationship with patients					

Appendix 3

Questionnaire (Swedish version)

Högskolan Kristianstad, Institutionen för Ekonomi

Undersökning angående sköterskors arbetstillfredsställelse

Tack för att du deltar i denna undersökning. Vi är studenter på Högskolan Kristianstad och vi håller på att skriva en magisteruppsats om sköterskors arbetstillfredsställelse i Kina respektive Sverige. Syftet med undersökningen är att hitta huvudfaktorerna som påverkar sköterskors arbetstillfredsställelse på sjukhus. Frågeformuläret består av 24 frågor. Alla måste besvaras. Det kommer att ta dig ungefär 5 minuter att svara på alla frågor. Din hjälp är mycket viktig för oss. Du kommer att vara anonym i undersökningen och ditt deltagande är frivilligt. Om du har några frågor, vänligen skicka e-post till oss till nelssonrobert_731108@hotmail.com. Vårt mobiltelefonnummer är 0738-590711.

Tack igen för att du deltar i vår undersökning.

Wendy Bob Yolande

Nov. 2006

Födelseår:_____

Du är: Undersköterska ☐ Sjuksköterska ☐ Specialist sjuksköterska ☐

Hur tillfredsställd är du generellt med ditt arbete?

Mycket tillfredsställd ☐

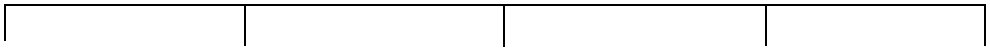
Något tillfredsställd ☐

Varken tillfredsställd eller otillfredsställd ☐

Något otillfredsställd ☐

Mycket otillfredsställd ☐

I vilken utsträckning är följande faktorer viktiga för att du ska vara tillfredsställd med ditt arbete? Vänligen välj ett nummer (markera med ett "× "), på en femgradig skala där 1 betyder inte alls viktigt, 3 att du är neutral och 5 att du anser att det är mycket viktigt.



1	2	3	4	5
Inte alls viktigt	Oviktigt	Neutral	Viktigt	Mycket viktigt

	Faktorer: Hur viktigt är:	1	2	3	4	5
1	Känslan av självförverkligande och tillfredsställelse i ditt arbete					
2	Erkännande från överordnade					
3	Respekt från arbetskamrater					
4	Återkoppling / feedback från överordnade					
5	Återkoppling / feedback från patienter					
6	Befordran					
7	Möjligheter för vidareutbildning					
8	Karriär utveckling					
9	Tilldelat ansvar					
10	Tillåten flexibilitet och självständighet					
11	Känslan av att behandlas lika					
12	Lön					
13	Reglerna och rutinerna för tillsyn och kontroll					
14	De övergripande målen och riktlinjerna på ditt sjukhus					
15	Organisationsklimatet					
16	Mängden arbete (arbetsbörda)					
17	Utrustningen som används på ditt sjukhus					
18	Risktagande					
19	Relationen med läkarna					
20	Relationen med arbetskamraterna					
21	Relationen med patienter					

Appendix 4

Distribution of age and educational

Distribution of age for China sample

Age group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	58	38.7	38.7	38.7
	30-39	47	31.3	31.3	70.0
	40-49	25	16.7	16.7	86.7
	over 50	20	13.3	13.3	100.0
	Total	**150**	**100.0**	**100.0**	

Distribution of age for Sweden sample

Age group		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	9	19.6	19.6	19.6
	30-39	9	19.6	19.6	39.1
	40-49	15	32.6	32.6	71.7
	over 50	13	28.3	28.3	100.0
	Total	**46**	**100.0**	**100.0**	

Distribution of educational level for China sample

Educational level		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Bachelor degree	28	18.7	18.7	18.7
	Associate degree	72	48.0	48.0	66.7
	Diploma	50	33.3	33.3	100.0
	Total	**150**	**100.0**	**100.0**	

Distribution of educational level for Sweden sample

	Educational level	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	diploma	16	34.8	34.8	34.8
	associate degree	29	63.0	63.0	97.8
	bachelor	1	2.2	2.2	100.0
	Total	**46**	**100.0**	**100.0**	

Appendix 5

General job satisfaction for two samples

Distribution of general job satisfaction for China sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	very dissatisfied	4	2.7	2.7	2.7
	somewhat dissatisfied	13	8.7	8.7	11.3
	neutral	76	50.7	50.7	62.0
	somewhat satisfied	52	34.7	34.7	96.7
	very satisfied	5	3.3	3.3	100.0
	Total	**150**	**100.0**	**100.0**	

Mean value of general job satisfaction for China sample

N	Valid	150
	Missing	0
Mean		3.27
Median		3.00
Std. Deviation		.77
Variance		.60

General job satisfaction of Swedish nurses

Satisfaction

N	Valid	46
	Missing	0
Mean		4.6087
Median		5.0000
Std. Deviation		.53658
Variance		.288

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	neutral	1	2.2	2.2	2.2
	somewhat satisfied	16	34.8	34.8	37.0
	very satisfied	29	63.0	63.0	100.0
	Total	**46**	**100.0**	**100.0**	

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	-,01733	,36990	,03020	-,07701	,04235	-,574	149	,567

Appendix 6

Hypothesis 1

Correlation between age and job satisfaction for China sample

		age	satisfaction
age	Pearson Correlation		
	Sig. (2-tailed)		
	N		
satisfaction	Pearson Correlation	-.082	
	Sig. (2-tailed)	.318	
	N	150	

Appendix 7

Hypothesis 2

Correlation between educational level and job satisfaction

		satisfaction	education
satisfaction	Pearson Correlation		
	Sig. (2-tailed)		
	N		
education	Pearson Correlation	-.021	
	Sig. (2-tailed)	.796	
	N	150	

Appendix 8

Hypothesis 3

Mean value of intrinsic job characteristic

Sub-item	Value	Factor	Value	Factor group	Value
1	3.93	Achievement	4.11	Intrinsic job characteristics	4.23
2	4.18				
3	4.23				
4	4.09	Feedback	4.11		
5	4.13				
6	4.01	Personal growth	4.04		
7	4.03				
8	4.07				
9	4.47	Responsibility	4.40		
10	4.31				
11	4.47	fairness	4.47		

Mean value of extrinsic job conditions

Sub-item	Value	Factor	Value	Factor group	Value
12	4.41	salary	4.42	Extrinsic job conditions	4.24
13	3.76	Supervision	4.01		
14	4.05				
15	4.22				
16	4.31	Workload	4.31		
17	4.05	Working condition	4.21		
18	4.37				
19	4.19	Interpersonal relationship	4.26		
20	4.32				
21	4.28				

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,2253	150	,51007	,04165
	Extrinsic average	4,2427	150	,45522	,03717

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	150	,712	,000

Appendix 9

Hypothesis 4

Correlation between age and intrinsic job characteristics for China sample

		age	instrinsic average
age	Pearson Correlation		
	Sig. (2-tailed)		
	N		
instrinsicaverage	Pearson Correlation	-.189*	
	Sig. (2-tailed)	.020	
	N	150	

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation between age and extrinsic job conditions for China sample

		age	extrinsica verage
age	Pearson Correlation		
	Sig. (2-tailed)		
	N		
extrinsicaverage	Pearson Correlation	-.118	
	Sig. (2-tailed)	.150	
	N	150	

Mean values of the importance levels in age

age group		Mean	N	Std. Deviation	Std. Error Mean
20-29	intrinsic	4.32	58	0.45	0.06
	extrinsic	4.28	58	0.48	0.06
30-39	intrinsic	4.21	47	0.53	0.08
	extrinsic	4.27	47	0.45	0.07
40-49	intrinsic	4.26	25	0.43	0.09
	extrinsic	4.18	25	0.40	0.08
over 50	intrinsic	3.96	20	0.66	0.15
	extrinsic	4.13	20	0.48	0.11

Age group 20-29

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,3172	58	,44622	,05859
	Extrinsic average	4,2836	58	,47604	,06251

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	58	,713	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	,03362	,35033	,04600	-,05849	,12574	,731	57	,468

Age group 30-39

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,2066	47	,52781	,07699
	Extrinsic average	4,2730	47	,44650	,06513

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	47	,696	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	-,06638	,38717	,05647	-,18006	,04729	-1,175	46	,246

Age group 40-49

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,2568	25	,42515	,08503
	Extrinsic average	4,1788	25	,39993	,07999

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	25	,542	,005

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	,07800	,39544	,07909	-,08523	,24123	,986	24	,334

Age group over 50

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	3,9635	20	,66337	,14833
	Extrinsic average	4,1325	20	,48477	,10840

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	20	,903	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	-,16900	,30716	,06868	-,31275	-,02525	-2,461	19	,024

Appendix 10

Hypothesis 5

Correlation of educational level and intrinsic job characteristics

		education	instrinsic average
education	Pearson Correlation		
	Sig. (2-tailed)		
	N		
instrinsicaverage	Pearson Correlation	-.083	
	Sig. (2-tailed)	.312	
	N	150	

Correlation of educational level and extrinsic job conditions

		education	extrinsica verage
education	Pearson Correlation		
	Sig. (2-tailed)		
	N		
extrinsicaverage	Pearson Correlation	.070	
	Sig. (2-tailed)	.393	
	N	150	

Mean values of the importance level in educational level

Paired Samples Statistics

			Mean	N	Std. Deviation	Std. Error Mean
pair 1	bachelor degree	intrinsic	4.20	28	0.51	0.097
		extrinsic	4.08	28	0.51	0.097
pair 2	associate degree	intrinsic	4.30	72	0.44	0.052
		extrinsic	4.32	72	0.40	0.047
pair 3	diploma	intrinsic	4.05	50	0.57	0.081
		extrinsic	4.19	50	0.47	0.067

Bachelor degree

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,2050	28	,51639	,09759
	Extrinsic average	4,0821	28	,51812	,09792

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	28	,764	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	,12286	,35564	,06721	-,01505	,26076	1,828	27	,079

Associate degree

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,3056	72	,44854	,05286
	Extrinsic average	4,3224	72	,40021	,04717

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	72	,658	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	-,01681	,35388	,04170	-,09996	,06635	-,403	71	,688

Diploma

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Intrinsic average	4,1212	50	,57613	,08148
	Extrinsic average	4,2178	50	,47480	,06715

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Intrinsic average & extrinsic average	50	,750	,000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	intrinsicaverage - extrinsicaverage	-,09660	,38378	,05427	-,20567	,01247	-1,780	49	,081

Appendix 11

Hypothesis 6

Nurse job satisfaction in two countries

	group	N	Mean	Std. Deviation	Std. Error Mean
satisfaction	China	150	3,2733	,77630	,06338
	SWeden	46	4,6087	,53658	,07912

Independent samples test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
satisfaction	Equal variances assumed	3,158	,077	-10,887	194	,000	-1,33536	,12266	-1,57728	-1,09345
	Equal variances not assumed			-13,173	107,884	,000	-1,33536	,10137	-1,53631	-1,13442

Mean values of intrinsic factors

	group	N	Mean	Std. Deviation	Std. Error Mean
intrinsic	China	150	4,2253	,51007	,04165
	Sweden	46	4,3939	,62592	,09229

Independent samples test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
intrinsic	Equal variances assumed	,000	,989	-1,855	194	,065	-,16858	,09087	-,34780	,01064
	Equal variances not assumed			-1,665	64,389	,101	-,16858	,10125	-,37082	,03366

Mean values of extrinsic factors

	group	N	Mean	Std. Deviation	Std. Error Mean
extrinsic	China	150	4,2427	,45522	,03717
	Sweden	46	4,3189	,40358	,05950

Independent sample test

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
extrinsicaverage	Equal variances assumed	,584	,446	-1,019	194	,309	-,07625	,07479	-,22376	,07127
	Equal variances not assumed			-1,087	83,143	,280	-,07625	,07016	-,21579	,06329

Appendix 12

The mean values of factors in age group for China sample

Mean

age	achievement	feedback	personal growth	responsibility	fairness	salary	supervision	workload	workingcondition	relationship
20-29	4.2300	4.2400	4.1500	4.4500	4.5000	4.5500	4.0500	4.3600	4.1800	4.2700
30-39	4.0355	4.0638	3.9787	4.4043	4.5532	4.4468	3.9858	4.4255	4.2660	4.2411
40-49	4.2267	4.0200	4.1200	4.3600	4.5600	4.3600	3.9867	4.1200	4.2000	4.2267
over 50	3.8000	3.8750	3.7667	4.2750	4.1000	4.0500	3.9667	4.1000	4.2000	4.3500
Total	4.1111	4.1067	4.0400	4.3967	4.4733	4.4200	4.0089	4.3067	4.2133	4.2644

Appendix 13

The mean values of factors in educational levels for China sample

Mean

education	achievement	feedback	personal growth	responsibility	fairness	salary	supervision	workload	workingcondition	relationship
bachelar degree	4.2381	4.1071	4.0238	4.3036	4.3571	4.3214	3.8929	4.2500	3.9821	3.9643
associate degree	4.1852	4.2083	4.1343	4.4444	4.5556	4.5417	4.0787	4.3889	4.2917	4.3102
diploma	3.9333	3.9600	3.9133	4.3800	4.4200	4.3000	3.9733	4.2200	4.2300	4.3667
Total	4.1111	4.1067	4.0400	4.3967	4.4733	4.4200	4.0089	4.3067	4.2133	4.2644