ISCTE Business School
Instituto Universitário de Lisboa

Doctors' Job Satisfaction, Organizational Citizenship Behavior and Burnout
—An Empirical Study in China's Public Hospital

LI Xiaoqiu

Thesis submitted as partial requirement for the conferral of the degree of
Doctor of Management

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Declaration

I declare that this thesis does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university and that to the best of my knowledge it does not contain any material previously published or written by another person except where due reference is made in the text.

Signed:  Date: 2015-09-17

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作者申明

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Abstract

Job satisfaction, organizational citizenship behavior (OCB) and burnout have been heavily researched, but the study of the relationships among these three constructs has been rare. In this thesis quantitative and qualitative research methods are employed to address this gap by studying the relationships among doctors' job satisfaction, OCB and burnout in a selected sample of China's public hospitals.

A questionnaire survey was distributed to 571 doctors in four municipal public hospitals in Shenzhen, China and 485 valid copies were collected. Statistical analysis techniques and methods such as descriptive statistics, factor analysis, correlation analysis, one-way analysis of variance, regression analysis have been used to study doctors' job satisfaction, OCB and burnout as a whole and explore the relationship among the three dimensions. The results suggest that the doctors have low job satisfaction and low organizational citizenship behavior. Results suggest that doctors in this study have low job satisfaction and low OCB. Moreover, they suffer from strong burnout due to a high level of emotional exhaustion. Among doctors in those China's public hospitals studied, job satisfaction is negatively correlated to burnout and has a negative impact on it; job satisfaction is not correlated to OCB, but only positively correlated to interpersonal harmony, a dimension of OCB. OCB is negatively correlated to burnout, and the emotional exhaustion dimension of burnout is significantly negatively correlated to OCB and its altruism, conscientiousness and interpersonal harmony dimensions. Results suggest that OCB might have a buffer effect against the burnout that doctors experience at work. This buffer effect forms the basis of interactive models so that, for example, an increasing OCB may help reduce burnout. In summary, job satisfaction was a valid predictor of burnout, whereas OCB was found to moderate the relationship between job satisfaction and burnout: the higher the OCB, the less the magnitude of the job satisfaction influence in protecting doctors from burnout.

Twenty six interviews were conducted to explain the quantitative findings. Practical implications were discussed.

Key Words: Job satisfaction, Organizational Citizenship Behavior, burnout, public hospitals in China

JEL: M54.

Resumo

Dimensões como a satisfação no trabalho, o comportamento de cidadania organizacional (CCO) e o esgotamento têm sido bastante estudadas, mas a investigação sobre como estas dimensões se relacionam entre si é ainda escassa. Esta tese utiliza métodos de investigação quantitativos e qualitativos na expectativa de contribuir para um melhor conhecimento da forma como estes construtos interagem, através de um estudo empírico de uma amostra de médicos a trabalhar nos quatro maiores hospitais públicos na cidade chinesa de Shenzhen.

Um questionário foi distribuído a 571 médicos tendo sido recolhidos 485 exemplares válidos. Foram utilizadas diversas técnicas estatísticas para processamento dos dados incluindo estatística descritiva, análise fatorial, análise de variância unidirecional, correlação e regressão múltipla no sentido de estudar as dimensões em análise como um todo e explorar as relações entre elas. Os resultados revelam que os médicos inquiridos têm um baixo nível de satisfação no trabalho e de CCO. Além disso sofrem de um elevado nível de esgotamento derivado sobretudo de exaustão emocional. Nos médicos estudados, a satisfação no trabalho está negativamente correlacionada com o nível de esgotamento e exerce uma influência negativa sobre ele. Contudo, a satisfação no trabalho não está relacionada com o CCO, mas apenas regista uma correlação positiva com uma das suas dimensões, a harmonia interpessoal. Por seu turno, o CCO tem uma correlação negativa com o esgotamento enquanto que a exaustão emocional, uma dimensão de esgotamento, regista uma correlação negativa significativa com o CCO e com as suas dimensões de altruísmo, consciencialização e harmonia interpessoal. Os resultados sugerem ainda que o CCO pode ter um efeito amortecedor no nível de esgotamento que os médicos sofrem no trabalho. Este efeito pode constituir uma base para modelos interativos de forma a que, por exemplo, um aumento de CCO possa contribuir para diminuir o nível de esgotamento. Em resumo verificou-se que a satisfação no trabalho é um preditor válido de esgotamento e que o CCO tem um efeito amortecedor na relação entre a satisfação no trabalho e o esgotamento: quanto mais elevado for o CCO mais reduzida é a influência que a satisfação no trabalho pode ter no sentido de proteger os médicos de esgotamento. Foram ainda conduzidas entrevistas que ajudaram a explicar e a interpretar os resultados do inquérito.

Palavras chave: Satisfação no trabalho, Comportamento de Cidadania Organizacional, esgotamento, hospitais públicos na China

Classificação JEL: M54

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Contents

List of Tables

List of Figures

Chapter 1: Introduction

This chapter mainly introduces the background, purpose, significance and structure of the research. It also provides a summary of the status quo of China's public hospitals and elaborates on the dilemmas that need to be addressed.

1.1 Research Background

Public hospitals normally refer to non-profit hospitals built by the government for achieving specific goals. They are a product of the public policy and institutional arrangement made by governments of all countries to ensure the accessibility and equity of medical and healthcare services as well as improving citizens' health. In China, likewise, public hospitals generally refer to non-profit organizations built and run by the state or groups (Jiang, 2005). China's healthcare is a social and non-profit undertaking that comes with the implementation of welfare policies by the Chinese government. The health service system is one of the carriers for the effective development of the healthcare undertaking. Public medical organizations, as an important part of the health service system, serve as the major force and as practitioners for safeguarding the non-profit nature of health services. They are not only shouldering the responsibility for providing all Chinese citizens with high-quality, low-cost and easily-accessible public health services and basic medical and health services, but are also responsible for fulfilling the important mission of boosting the development and innovation of medical technologies and ensuring satisfaction of the health needs of the general public (Li, E & Tian, 2007; Tian, Han & Lu, 2007).

In accordance with the *2011 Yearbook of Health* of the People's Republic of China (Ministry of Health Information and Statistics Center [MHISC], 2012), by the end of 2011, China had 13,539 public hospitals, accounting for 61.60% of all hospitals, which means that public hospitals had significantly outnumbered its counterparts. The health personnel, medical personnel and licensed (assistant) doctors in China's public hospitals took up more than 65% of their respective total number in China's hospitals; the number of beds took up 62.86% of the total number of beds; and the revenues generated took up 81.96% of all revenues generated by China's hospitals. In terms of volume, the number of hospital visits and that of inpatients of public hospitals respectively took up more than

90% of the total number of hospital visits and inpatients of China's hospitals. It can thus be seen that public hospitals play a dominant role in China's medical and healthcare industry. As a major supplier of Chinese citizens' medical services, they play an irreplaceable role.

Public hospitals, as the main executor of the non-profit nature of China's healthcare undertaking, are also the dominant supplier of non-profit services. The growth of public hospitals will directly influence the development of the whole medical and healthcare market as well as the healthcare undertaking, thus influencing the health and wellbeing of the general public (China's Ministry of Health, 2012). Therefore, how to better play the dominant role of public hospitals has become a challenge for the government, academia and practitioners as well as the focus of the next round of medical reform in China.

According to Schultz's (1960) human capital theory: human resources are the most primary resources among all resources. Human capital is a type of capital that reflects the aggregation of people's knowledge, skills, abilities and health values to perform labor. Return on investment in human capital is far higher than that on investment in material capital. In April 2006, World Health Organization (WHO) published the World Health Report, which defined "health human resources" as the subject of World Health Day 2006. By doing so, it called on countries to give priority to health and human resource crisis, as well as to respect and safeguard health workers' dignity and values (WHO, 2006). The Third Global Forum on Human Resources for Health organized by Global Health Workforce Alliance (GHWA, 2013) took place between November 10, 2013 and November 13, 2013 in Recife, Brazil. The theme of this forum is "Human Resources for Health: Foundation for Universal Health Coverage and the Post-2015 Development Agenda." It can be seen that health human resources have become a major issue of concern both nationwide and worldwide.

Scholars focus on the matter of "people" from psychological and sociological perspectives. They analyze and study workers' behaviors during production and the reasons for these behaviors, including people's nature and needs, behavioral motives, emotions and interpersonal relationships. They conclude from their research that only by stimulating motivation from the essence of people's behavior and increasing employees' "satisfaction" to boost their morale can the purpose of increasing work efficiency be achieved (Dai, 2000; Kong, 2001).

In China, it is explicitly put forward in the new medical reform plan set up in 2009 that measures should be taken to optimize medical personnel's work environment and conditions, protect medical personnel's legitimate rights, mobilize medical personnel to improve services, increase efficiency and enhance initiative, so as to establish a sustainable talent supply mechanism (China's State council, 2009). China's six ministries including the Ministry of Health (2010) put forward that measures should be taken to establish and improve a vigorous and dynamic talent work mechanism that is in line with the intrinsic development rules of medical talents, and that efforts should be made to build a team of competent medical personnel with fine virtues, sophisticated skills and good services. It can be seen that government authorities are aware that one of the priorities of medical and health system reform is to boost the morale of the vast majority of medical personnel working at the forefront, increase their job satisfaction and retain key talents. While increasing the satisfaction of the general public, efforts should also be made to enable the active participation of medical personnel. Since doctors are the major suppliers of medical services, it is imperative to give priority to their physical health, mental health and emotional wellbeing, as well as to increase their job satisfaction while deepening the medical system reform.

1.1.1 Management System of China's Public Hospitals

The following section summarizes the general management systems of public hospitals in Shenzhen China based on the Public Hospital Administration of Shenzhen Municipality Statistics Yearbook (2013), and other relevant literature.

(1) Classification of general public hospitals

According to their function and tasks, hospitals in China are classified into primary, secondary and tertiary hospitals. Primary hospitals, with 100 or less beds, refer to grass-roots hospitals and health centers which offer disease prevention, medical treatment, health care, and rehabilitation services to communities with a certain amount of population. Secondary hospitals, with 101 to 500 beds, refer to regional hospitals that offer comprehensive medical and health care services to a number of communities as well as undertake certain teaching and research task. Tertiary hospitals, with more than 500 beds, refer to hospitals that offer high-level specialized medical and health care services to several areas as well as undertake higher education and scientific research tasks. After evaluation, hospitals at all levels will be identified as Class A, Class B and Class C hospitals according to Hospital Classification Management Criteria. In addition, one

special level - 3AAA - is reserved for the most specialized hospitals. Therefore, there are three grades and ten levels of hospitals in China. Quality medical resources are concentrated in tertiary hospitals because they have all the necessary medical equipment and famous doctors. As people are obsessed with famous doctors, they tend to visit tertiary hospitals even for non-complicated diseases like colds. As a result, the workload of medical staff in tertiary hospitals is excessively heavy, while the workload of medical staff in primary hospitals is unsaturated.

Table1-1 Classification of general public hospitals

Classification	Subdivision Level	Beds of hospitals	Evaluation
tertiary hospitals	3AAA 3A 3B 3C	more than 500 beds.	After review at the levels of the hospital, according to "hospital classification management standards".
Secondary hospitals	2A 2B 2C	with 101 to 500 beds.	After review at the levels of the hospital, according to "hospital classification management standards".
Primary hospitals	1A 1B 1C	with 100 or less beds.	After review at the levels of the hospital, according to "hospital classification management standards".

Source: Public Hospital Administration of Shenzhen Municipality Statistics Yearbook (2013)

(2) Government financial compensation mechanism for hospitals

The government introduced market mechanism to public hospital operation in 1980, a move pushing public hospital to be market-oriented. The percentage of financial compensation in hospital revenue has been declining from 80% in 1980 to 6.97% in 2008. In 2008, Only 6.97% of the total revenue comes from financial compensation, while hospitals have to cover the rest 93.03% by themselves. It forces hospitals to focus on profit seeking and brings about the phenomenon of over-treatment. After the new health

care reform policies were released in January 2009, the Chinese government re-adjusted the government financial compensation mechanism for hospitals, providing that local governments should, based on their financial situation, formulate different levels of financial compensation for hospitals, so as to increase investment in public hospitals. From 2009 to 2013, the total amount of investment from Shenzhen municipal government in public hospitals has been increasing year by year, accounting for 18% of the total hospital revenue in 2013, among which 8% is hospital operation subsidy and 10% is for infrastructure and upgrading of large equipment. In other words, 18% of the total hospital revenue comes from government financial compensation, while the rest 82% should be covered by hospitals themselves in 2013. To get the yearly financial compensation, especially for infrastructure and equipment upgrading, hospitals should apply for it in the first place and wait for government's approval.

(3) Hospital salary management

Salary of the medical staff is about twice of the average wage in society. Salary of the medical staff includes basic pay and performance pay, among which 30% are basic pay and 70% are performance pay. The basic pay of medical staff is lower than the average wage in society. The performance pay is determined by the workload of medical staff and the revenue they have created for the hospital. In other words, the medical staff will get more pay for more work done. The medical staff needs to shoulder more workload, enhance patients' medical expenditure to get their performance pay and increase their individual income. As a result, there appears a phenomenon that medical staff and public hospitals focus on profit seeking.

(4) Employees' job promotion

In the national standards, job promotion of the medical staff is determined by examinations or combination of examination and evaluation. The promotion criteria focus on theoretical or research achievements, paying little attention to clinical operational skills. As a result, although many medical staff have been promoted to high ranks, their actual medical skills have not reached the corresponding level.

(5) Workload

With rapid economic growth, Shenzhen is a city of immigrants and has a large number of non-native population. In 2013, the average level of daily workload of doctors in public hospitals in Shenzhen is 2.6 times as heavy as that of their counterparts in the

average level of daily workload of doctors in public hospitals in China (Public Hospital Administration of Shenzhen Municipality, 2013).

(6) Hospital culture

Study suggests that organizational culture has a positive impact on emotional commitment of employees (Fan, Yan, & Yu, 2011). However, the public hospitals make little commitments to building hospital culture and values. The Public Hospital Administration of Shenzhen Municipality found from its inspections that few public hospitals trained employees on the core values of the hospital, hospital vision, work ethics, teamwork and support, and nearly one third of the hospitals had no planning on the core values and vision.

(7) Doctor-Patient Relationship

Every hospital has established a special department to deal with medical disputes in Shenzhen. The government, hospitals and doctors do not buy "medical professional liability insurance", but when medical disputes occur, especially cases involving death, the government often conduct administrative intervention to the hospital so as to avoid mass protest and create a harmonious social environment. Even though the hospital does nothing wrong in the dispute, the government may not resort to the law and still forces the hospital to compensate the patients out of humanitarian concern (Public Hospital Administration of Shenzhen Municipality, 2013). As hospitals enter the market, in order to maintain operation, they generally do not offer free medical services. Many people think it an unacceptable fact that they have to pay to get medical treatment. Meanwhile, people's expectation of medical services is increasing, and they will file complaints or make troubles once they feel dissatisfied. When there are non-iatrogenic disputes, complaints and making troubles means money compensation, so family members of patients are unwilling to resolve disputes through medical appraisal or legal approaches, which leads to appearance of professional medical dispute profiteers (Ding, 2013). Professional medical dispute profiteers refer to persons who are hired by the patient side of a medical dispute, and seek profits by imposing pressure on the hospital and take it as a means of living. They often build mourning hall in the hospital, beat medial staff, smash hospital assets, set up blockades to stop patients from getting medical service, follow the medical staff, or stay in the consulting room, doctors' office or leaders' office. They pose negative influence on the hospital by disrupting medical order and exaggerating the

situation (Ding, 2013). Since there is still no legislation to deal with medical dispute profiteers, violent injury events towards doctors are becoming increasingly rampant. Statistics show that Shenzhen People's Hospital has to pay about four million yuan every year because of medical disputes (in 36% cases the hospital is without fault). In order to avoid larger compensation, the hospital often requires the medical staff to speak and behave like service industry practitioners. The medical staff have to share 10% of the compensation, so more than a half of them cannot feel support from the organization. (Public Hospital Administration of Shenzhen Municipality, 2013).

1.1.2 Doctor's Job Characteristics

Due to the specificity of work environment, doctors have to face diseases and death on a frequent basis, and also need to deal with various kinds of emergency medical incidents. Doctors have to deal with huge workload everyday and are under tremendous mental stress. Besides, they also have to live with flexible working hours and work extra hours or stay up if required. This may easily lead to conflicts between work and family and thus gives rise to such health problems as irritability, burnout, anxiety and depression (Tomioka, Morita & Saeki, 2011; Wang, Chen & Hsu, 2011).

As a group of people with highly technical capabilities, doctors have very strong desire for self-actualization and value identification. The expertise they have mastered has enabled them to be free from the evaluation of their personal values from the perspective of traditional occupations, but has enabled them to have career opportunities outside their employers. This pursuit of actualization of personal values and loyalty to their profession weaken their loyalty to the organization they work for. In the social context where doctors are not highly dependent on organizations, their turnover tends to be high (Jiu, 2001). Chen (2008) found in his research that doctor is a special profession that requires strong education background and a high level of expertise and skills. Because of this, medical doctors tend to be more competitive in the job market and enjoy more job options. As a result, their loyalty to organization tends to be weak and, with promotion, their organizational citizenship behavior tends to decrease while turnover increases.

It is generally required that doctors should have strong education background. They need to participate in continuous training to keep abreast of new knowledge in order to adapt to the transformation of medical patterns as well as improve and maintain their capabilities and values. These are in line with some characteristics of the knowledge worker (Drucker, 1999). Tampoe（1993）believes that the motivation factors that

knowledge worker value most are: individual growth, work autonomy, achievement in business, as well as money and wealth. They do not just work for the sole purpose of survival. Instead, they tend to show stronger drive for excellence, stronger motivation in work and stronger pursuit of occupational achievement. They tend to hope that they can have independent values and sense of autonomy, and work in their own way under the premise of complying with professional and technical norms. They do not like to be controlled by people or any externalities. Moreover, this requirement of autonomy only increases with their age, experience and seniority (Gao, 2001).

1.1.3 Dilemmas of Doctors in Public Hospitals

As high profile knowledge workers, Chinese doctors are supposed to enjoy high respect and high level of job satisfaction. However, research on the job satisfaction of Chinese doctors suggests that doctors' job satisfaction is low. For example, research carried out by Chinese Medical Doctor Association shows that doctors are not satisfied with their work environment. To be specific, 60.66% of doctors regarded their work environment as poor (Lan, 2002). Research data on Chinese doctors' practice status in 2009 show that 63.57% of Chinese doctors consider their current work environment as poor (MHISC, 2009). Qiu, Liu, Yu, Tian, Gao & Li (2012) found in their research that only 34.5% of doctors regard their salary to be highly reasonable; Wang, Ma, Xu, Li, Liu & Tang (2012) found that only 46.1% of doctors are generally satisfied with their work; the survey on the job satisfaction of doctors in Guangzhou reveal that up to 80% of doctors are dissatisfied with their work (Huang & Fang, 2015).

Moreover, Chinese doctors are facing increasing threats in their jobs. Research data from Chinese Medical Doctor Association show that it is common to see doctors being called names and threatened, and that the occurrence rate of medical disputes increased from 90% in 2008 to 96% in 2012, which means that in only 4% of hospitals there have not occurred medical disputes. The cases where medical personnel suffer physical attacks that result in obvious injuries have been increasing year by year, and the percentage of hospitals with incidents of doctors being harmed also increased from 47.7% in 2008 to 63.7% in 2012. The percentage nearly doubled from 2008 (4.5%) to 2012 (8.3%). Most malignant incidents of doctors being harmed are not caused by medical disputes, but by huge work stress, low job satisfaction and reluctance to communicate with patients (Chinese Medical Doctor Association, 2014).

Research indicates that the extrinsic satisfaction dimension of doctors' job satisfaction in China's public hospitals is an important factor that leads to their resignation (Gu, Huang & Chen, 2006; Zeng, 2007). Quite a few studies suggest that doctors' job satisfaction is positively correlated to patient satisfaction, whereas a decrease in doctors' job satisfaction will result in the following negative influences: increase of turnover (resignation) rate; dangerous practicing (prescription) behavior, decrease of service efficiency, strained doctor-patient relationship, increase of medical disputes and rise of health service cost (Haas, Cook & Puopolo, 2000; Leigh, Kravitz & Schembri, 2002; Eric & Asheley, 2003). As Li et al. (2012) found in their research among more than 500 medical personnel in Beijing that above 2/3 medical personnel believe that they are under tremendous stress. Besides, 52.2% of medical personnel are on the whole dissatisfied with their work. In the face of decision-making on medical treatment, medical personnel become overly prudent and negative in their treatment behaviors and show the sign of worry and self-preservation or even do self-preservation medical behaviors that are against the medical science principles (e.g. over treatment, over examination) to avoid medical risks.

Other studies indicate that due to the above-mentioned job characteristics and environment, doctors have become a group susceptible to burnout and the situation has been deteriorating. For example, Li, Shi and Luo (2003) found in their research among 218 doctors and nurses that 42.1% of the subjects suffer certain levels of emotional exhaustion, 22.7% suffer certain levels of emotional distance and 48.6% have no sense of personal achievement. Wang & Zhang (2008) discovered that 75.6% of doctors suffer different levels of burnout, of which 34.1% suffer emotional exhaustion, 48.1% suffer emotional distance and 45.4% have no sense of personal achievement. The research carried out by China's Ministry of Health in 2010 found that more than half (52.4%) of doctors suffer from job burnout. To be specific, 3.1% suffer severe burnout, and those suffering emotional exhaustion, depersonalization and low sense of achievement respectively take up 15%, 11.2% and 2.9% (MHISC, 2010). Maslach & Leiter (1997) believe that the occupational health problems resulting from burnout are becoming more and more prominent, to the point of standing in the way of the pursuit of wonderful work and life. Burnout not only causes doctors to suffer both physical and mental fatigue and decrease of life quality, thus producing the wish or actions of resignation or even suicide. What is worse, it tends to result in the absence of work enthusiasm and decrease of work

efficiency, directly having negative impacts on doctors' medical service behavior, service quality and doctor-patient relationship, thus jeopardizing patients' health (Prosser, Johnson, Kuipers, Dunn, Szmukler, & Reid, et al. 1999; Williams, Konrad & Sehekler, Pathman, Linzer & McMurray, et al. 2001; Xu, 2011; Li & Xu, 2012).

OCB can help increase employees' productivity and management efficacy (Podsakoff, Mackenzie, Paine & Bacharch, 2000). Lv (2013) contends that OCB can reduce interpersonal frictions, increase employees' and groups' work efficiency, create a supportive work environment with interpersonal harmony, increase organizational appeal and retain excellent talents. Pu, Chen, & Yang (2009) believe that from the extra role perspective, doctors' job responsibilities outlined in medical occupation spirit do not directly exert impacts on patients, but do so through doctor-patient relationships. Medical professionalism has to a certain extent represented OCB at the new stage. Research on doctors' OCB has been rare in literature. The existing researches in this regard show that the overall OCB of doctors and nurses are at the medium level (Zhang, 2010; Wu, Peng, Ding & Wang, 2011; Guo, Liu, Wang & Zhou, 2012). A probe of literature reveals that there are very few researches on the relationships among job satisfaction, OCB and burnout in China's public hospitals. The present thesis aims to contribute to fill this gap.

In summary, the job satisfaction and emotional status of doctors working in public hospitals as a special group is a cause for concern. The work attitude of public hospital doctors is an issue that needs to be studied and appropriately addressed with a certain level of urgency due to the deteriorating situation. The existing literature shows that currently there has been no research on job satisfaction, OCB and burnout. In this context, this study attempts to contribute to close this gap in our knowledge through investigating how job satisfaction impacts the burnout out of doctors, and how the interaction between job satisfaction and OCB might influence the burnout of doctors working in China's public hospitals, thus aiming to provide some valuable implications for hospital managers and doctors per se.

1.1.4 Research Questions

Burnout is known to be a persistent negative phenomenon in healthcare environment, with healthcare professionals being one of the leading occupations experiencing burnout (Li, et al. 2003). Burnout poses negative influences on doctors' medical service actions, service quality and doctor-patient relationships. Once burnout occurs, doctors will suffer absence of work enthusiasm and decrease of service efficiency, which will directly

jeopardize patients' health. How to reduce the burnout of doctors in public hospitals and ensure patients' health? This is a problem that calls for rigorous study and appropriate resolution (Xu, 2011).

Creating the conditions to prevent such negative phenomenon implies facing high costs so as to increase job satisfaction, especially extrinsic job satisfaction (Cheng, Yue & Li, 2011). This option is not always within the reach of healthcare managers, where finances may become strained due to persistent pressures for cost reduction, budget control and soaring operating prices, especially in large central hospital facilities (Hou, Kong, Wu, Li, Cao & Ma，2013).

However, some key variables in managing HRM concern intrinsic dimensions of work that relate more with doctors' intrinsic motivations and attitudes towards work rather than resources that organizations can actually buy or invest in. Such is the case of OCB or intrinsic satisfaction, that are greatly built on inert / values / dispositional factors (Podsakoff, et al. 2000), thus reflecting a personal ethics towards work (Chu, Lee, Hsu & Chen, 2005).

Therefore, ***what are the possible interactions between OCB and job satisfaction in preventing burnout?*** This study is carried out to test such effects.

1.2 Research Purpose and Significance

Research purpose, research significance, research approach and research framework are elaborated on. Quantitative research is to be adopted to study job satisfaction, OCB and burnout. Following the quantitative results, interviews are carried out to have an in-depth understanding of the results.

1.2.1 Research Purpose

Based on the above background, the main purposes of the present research are: first, to understand the morale and psychological health of doctors as well as the major problems by carrying out a survey and systematic research on the work attitude of doctors in public hospitals; second, explore the inter-relationships among doctors' job satisfaction, OCB and burnout and the influencing factors; and third, propose countermeasures on the basis of comprehensive analysis in the hope of providing policy reference for improving doctors' physical and mental health as well as increasing their work initiative and stability.

1.2.2 Research Significance

First of all, this research may help to understand doctors' perceptions in public hospital, as well as their evaluation and psychological reactions towards their own work, and shed light on the work and psychology of doctors so as to enable the society to understand their work, view them more comprehensively and fairly, as well as strengthen mutual understanding and exchange.

Second, literature review suggests that researches on the relationships among job satisfaction, OCB and burnout in China's public hospitals are still quite few. The study may fill in the gap in the literature by exploring the relationships among doctors' job satisfaction, OCB and burnout.

Lastly, this research may help public hospital managers to establish effective motivation mechanisms, improve human resource management, and develop positive organizational culture to enhance doctors' satisfaction, promote OCB and reduce burnout, so as to ultimately achieve the goal of improving health services quality and performance.

1.2.3 Thesis Structure

This paper is organized as follows. It starts by presenting relevant theoretical frameworks, research evidence and hypotheses in Chapter two. Chapter three describes the research design and methods and Chapter four presents analysis and results. Chapter five discusses the findings and it concludes in Chapter six with the implications for management and the limitations of this study.

Chapter 2: Literature Review

This chapter reviews the literature on job satisfaction, OCB and burnout. It discusses the definition, dimensions, and measurement methods of each concept and the relations of the three variables.

2.1 Job Satisfaction Theories and Relevant Researches

2.1.1 Origin and Definition

The earliest research on job satisfaction was carried out by Hoppock (1935), who first introduced the concept of job satisfaction. He believes that job satisfaction is employees' both psychological and physical satisfaction towards environmental factors, meaning it is employees' subjective reaction towards work.

Due to different research subjects and theoretical frameworks, plus the complexity of job satisfaction itself, different scholars have various definitions on job satisfaction. Table 2-1 lists some representative definitions.

Drawing on various definitions of job satisfaction by different scholars, Taiwanese scholar Xu (1977) made a summarization into three categories, namely, comprehensive definition, expectation gap definition and reference frame definition, which cover most definitions of job satisfaction in the academic circle.

Comprehensive definition, which is also the most traditional definition, gives a general understanding of job satisfaction, deeming it as a simple concept that is not involved with different dimensions or forming processes. The key point is that it is an attitude or a view on the job itself as well as related environment, and it is an emotional reaction of employees to all their job roles. Representative scholars that hold the view of this definition include Hoppock (1935), Kalleberg (1977), as well as Seal & Knight (1988).

In the expectation gap definition, the level of job satisfaction employees have is determined by the gap between their actual gains and their expected gains. The smaller the gap, the stronger the satisfaction is, and vice versa. Scholars such as Porter & Lawler (1968), or Dunn & Stephens (1972) hold similar views.

Table 2-1 List of Definitions of Job Satisfaction

Researcher (Year)	**Definition**
Hoppock(1935)	Job satisfaction is employees' psychological and physical satisfaction to environmental factors.
Morse (1953)	Job satisfaction is the function of interactions between objective job characteristics and individual motivations.
Vroom (1964)	Job satisfaction is individual's positive orientation to the job role.
Blum & Naylor (1968)	A result of employees' different attitudes towards the job and related factors.
Porter & Lawler (1968)；Smith, Kendall & Hulin (1969)	The degree of job satisfaction is determined by the gap between the actual rewards the individuals get and the rewards they think they deserve to get. The smaller the gap, the stronger the job satisfaction.
Cambel & Maffei (1970)	Job satisfaction is a positive or negative attitude or feeling towards the job or a certain characteristic of the job. Therefore, it is inner emotional state of the individual.
Dunn & Stephens (1972)	Job satisfaction is employees' emotional reaction to the whole work environment, and the emotion is determined by the gap between what they think they will gain and what they actually gain.
Cribbin (1972)	It is employees' feeling towards the work environment, including the job itself, management leaders, teams, and activities beyond work.

Tiffin & McCormick (1974)	Job satisfaction is the degree of satisfaction the employees feel to be determined by what they gain from the job. It can also be deemed as the attitude of employees.
Locke (1976)	Job satisfaction is a positive emotional state originated from employees' assessment of the job or job experience.
Kalleberg (1977)	Job satisfaction is a single concept. Employees balance satisfaction and dissatisfaction on different dimensions of the job and form overall satisfaction towards the organization.
Dessler (1980)	Job satisfaction is a sense of fulfillment when the needs of health, safety, growth, relationship, and self-esteem are met in the job or job achievements.
Gorton (1982)	Job satisfaction is an attitude variable that reflects positive or negative emotions on certain people or situation, which is also related to work morale.
Seal & Knight (1988)	Job satisfaction is employees' emotional or affective reaction to as well as evaluation of the job itself.
Cranny, Smith & Stone (1992)	Job satisfaction is a psychological feeling after comparing the expected gains and the actual gains.
Lu & Shi (2002)	Job satisfaction is an attitude reaction after employees evaluate the job or job experience, which is different from the satisfaction of personal life and individual career development direction.

Source: Data collected in this research

In the view of reference framework definition, job satisfaction is a result of perception and subjective analysis on job characteristics on the basis of reference framework. The overall state of job satisfaction is subject to individual internal factors such as marriage, professional title, age as well as external factors related to different dimensions of the job. It is employees' subjective emotions towards various work dimensions. Scholars in favor of this definition include Morse (1953), Blum & Naylor (1968), Cambell & Maffei (1970), Cribbin (1972), as well as Lu & Shi (2002).

The differences among the above-mentioned categories of job satisfaction definitions are evident. A comprehensive definition emphasizes a single concept in which the employee can balance all factors and gain overall satisfaction, yet such satisfaction is relatively difficult to measure and leaves out many job-related factors that can influence workers' feelings. Expectation gap definition focuses on the gap between actual rewards and expected ones, which is also difficult to measure and leaves out the influence of the job itself on employees' satisfaction. Reference framework definition gives consideration to job characteristics on the basis of a variety factors to measure individual satisfaction, the result of which can be different due to different dimensions of the job (Xu, 1977). This research studies doctors' work morale and their mental health as well as some existing problems in this field. The comprehensive definition is to be used in this research.

2.1.2 Theoretical Basis of Job Satisfaction

The related research on job satisfaction in different fields has diverse theoretical foundations that can be grouped into two categories (Dai, 2000). One category contains substantive theories, or in other words, content-based theories that study individual internal factors and external environment and analyze what specific factors can motivate employees. This category gives importance to certain contents that can be incentives for individuals, such as job security, remuneration, promotion, and friendly co-workers. The representative theories include Maslow's (1954) hierarchy of needs theory, Herzberg's (1959) two-factor theory and Alderfer's (1969) existence, relatedness and growth (ERG) theory. The other category contains process-based theories that discuss how to motivate and direct employees so as to initiate continuous organizational behaviors. These theories also demonstrate the interaction between variables and methods to lead individuals to have certain behaviors. Representative theories include Vroom's (1964) expectancy theory and Adam's (1967) equity theory. This research has coverage on both categories.

(1) Maslow's hierarchy of needs theory (Maslow, 1954)

This theory divides human needs into five levels with hierarchy of effects, including physiological needs, safety needs, love and belonging needs, esteem needs and self-actualization needs. The individual needs are developed from the bottom level to the top. Thus, only when the lower level of needs is satisfied can the next level of needs become dominating. However, any level of needs is not to be removed with development of the higher level of needs. In other words, all levels of needs are interdependent and can be overlapped. The lower level of needs still exists with development of higher levels of needs, but it has less influence on behaviors. It means that when a level of needs is satisfied, it becomes less of a motivator, while the higher level of needs that are to be satisfied will become the dominating motivator.

(2) Herzberg's two-factor theory (Herzberg, Mausner & Snyderman, 1959)

This theory believes that influencing factors of job satisfaction include two types, namely, hygiene factors and motivators. The hygiene factors are related to work environment. The improvement of these factors can remove job dissatisfaction but will not lead to higher job satisfaction, including factors such as salary, interpersonal relationship, work conditions, security and supervisory management. The motivators are factors related to the job itself. These factors can stimulate the sense of achievement and sense of responsibility as well as mobilize the initiative to work hard, such as social recognition of job status, development room of the job itself, richness of job contents and challenging work. Herzberg believes that motivators are closely related to job satisfaction, including achievement, responsibilities, growth, promotion, recognition and the job itself.

In Maslow's hierarchy of needs theory, physiological needs, safety needs, and love & belonging needs are grouped into hygiene factors, while esteem needs and self-actualization needs can be deemed as motivators.

(3) Alderfer's ERG Theory (Alderfer, 1969)

The ERG theory concludes three core needs of employees, namely, existence, relatedness and growth. Existence needs refer to physical and material dimensions such as vaster benefits and salary, which is similar to the physiological needs in Maslow's theory. Relatedness emphasizes the interactive relationship among the individual and the society, which resembles esteem needs and self-actualization needs in Maslow's theory. The difference from Maslow's theory is that the ERG theory does not assume that these needs are subject to strict hierarchy, believing that a person can pursue growth needs even when the

existence needs and relatedness needs are not yet satisfied, or that the three types of needs can function together on the individual. Besides, the theory points out that if one type of needs is confronted with setbacks and cannot be satisfied, the individual will unconsciously resort to seeking lower levels of needs.

(4) Vroom's Expectancy Theory (Vroom, 1964)

The basic hypothesis of this theory is that the reason of an individual to do the job and work hard to achieve organizational goals is because the individual expects that what he achieves in the organization will realize his own aims and satisfy his own needs. The theory believes that the individual's level of engagement in activities with certain behaviors is determined by his expected results of what the behaviors will bring him as well as the attraction of such results. Motivation is the product of potency and expectation, of which potency is an individual's preference for a certain result and expectation is the opportunity of a certain behavior that can lead to a certain result. This theory demonstrates a psychological mechanism of people's behaviors, which is highly useful in analyzing management and incentive measures. To different levels of job roles, diverse incentive measures should be carried out on the basis of different job characteristics, so as to satisfy employees' various expectations. For example, for chief physicians who are in leadership positions, economic rewards might have less attraction than a reward of a vacation abroad; for resident doctors or attending physicians that have newly graduated, economic rewards may be more attractive; for surgeons, what they value most is to master the most advanced technology, therefore it is more effective to offer them opportunities to study abroad. For gynecologists, especially male ones, it is more important to give them mental encouragement and to help them overcome traditional views. Everyone has different expectations; therefore, it is of necessity to use expectancy theory based on different situations so as to meet different individuals' expectations.

(5) Adams' Equity Theory (Adams, 1965)

The equity theory is also known as social comparison theory. Adams believes that the level of work engagement, job performance and job satisfaction are determined by the equity employees perceive in the work environment. Thus employees not only evaluate their own outcomes from work but also compare their input/outcome ratio to that of other employees so as to decide the inputs they will bring to the job. Through comparison of the ratios, they will have their own perception of equity. When individuals have certain achievements and gain rewards, they not only care about the absolute amount of what they gain but also pay

attention to the relative amount of the outcomes. In other words, they will compare with the outcomes of others to evaluate whether what they receive is equitable treatment. The result of the comparison will directly influence what they will bring to the job. The selection of comparison subjects adds to the complexity of equity theory, including four types of comparison selections, namely, self-internal, self-external, others-internal and others-external.

Among other theories, the ones that have received wide recognition include McClelland's achievement motivation theory, McGregor's X-Y theory, Locke's goal-setting theory, Charms' cognitive evaluation theory and Skinner's reinforcement theory (Dai, 2000).

2.1.3 Dimensions and Measurement of Job Satisfaction

The measurement of job satisfaction mainly adopts a satisfaction scale as the instrument. There are a large number of job satisfaction scales available, but the most widely used ones, from the result of literature research, include the following： Minnesota Satisfaction Questionnaire (MSQ), Job Descriptive Index (JDI), Job Diagnostic Survey (JDS) and Job Satisfaction Survey (JSS).

(1) Minnesota Satisfaction Questionnaire (MSQ)

Developed by Weiss, Dawis, England & Lofquist (1967), this scale has become one of the most commonly used standard scales for satisfaction measurement. The MSQ is divided into long-version scale that consists of 21 sub-scales and short-version scale that contains 3 sub-scales. The long-version MSQ contains 100 items that are grouped into 21 sub-scales, covering wide range factors including realization of one's potential, sense of achievement, initiative, company training and self development, power, company policy and its implementation, remuneration, department teamwork, creativity, independency, moral standards, rewards and punishment, individual responsibility, employee's job security, employee's benefits of social service, employee's social status, employee relationships management and communication, company's technological development, company's diverse development, as well as work conditions and environment. This scale can measure overall satisfaction and satisfaction of over 20 job dimensions including creativity, independency, work environment, remuneration, colleagues, responsibility, stability and social status. The short-version scale contains three sub-scales of intrinsic satisfaction, extrinsic satisfaction, and overall satisfaction, with coverage mainly on dimensions such as exertion of competence, achievement, activity and promotion.

The characteristic of MSQ lies in its ability to measure both the overall job satisfaction

and satisfaction of different dimensions. Studies find that the long-version scale may be too long for some test-takers who may not have enough patience to finish the test, therefore the burden the test-taker bears and the probable errors in the answers should be taken into consideration. The short-version scale is relatively short, filling it is relatively painless and results can be more reliable, which may be the reason why it is commonly used and highly favored.

(2) Job Descriptive Index (JDI)

Developed by Smith, Kendall & Hulin (1985), this scale is so far the most well known tool to measure employees' job satisfaction. Dividing the contents into 5 dimensions, namely, the job itself, promotion, salary, management leaders and co-workers, the scale consists of 72 items and each dimension includes 9 or 18 items. The feature of JDI is that the test-taker is only asked to select an adjective to describe different aspects of the job, so even people with low level of education can easily do the test.

JDI is not as specific as MSQ to measure different job dimensions, and the total points of the five dimensions represent the overall satisfaction. There has not yet been researches discussing whether the five dimensions are further divided into more specific aspects, for instance, the dimension of management leaders divided into management ability and interpersonal communication skills.

(3) Job Diagnostic Survey (JDS)

Designed by Hackman & Oldham (1975), the scale covers six dimensions including growth, salary, safety, society, immediate boss and supervision, each with two or three items and marked based on seven grades from "highly dissatisfied" to "highly satisfied".

(4) Job Satisfaction Survey (JSS)

The scale is developed by Spector & Paul (1997), consisting of nine dimensions including salary, promotion, supervision, extra benefits, performance bonus, work conditions, relationship with colleagues, job characteristics and communication, each with four items. The total point of all items represents the overall job satisfaction. Each item is given one to six points from "strongly disagree" to "strongly agree". This scale is applicable for a variety of organizations.

No standards have been agreed upon as how to scientifically set measurement dimensions. This research will adopt the short-version MSQ that is broadly used.

2.1.4 Research on Job Satisfaction in China

It is relatively late that research on job satisfaction began to get attention in China, but

before that many researchers had already carried out studies on its determinants and employees' motivations.

Xu & Ling (1980) and their colleagues co-finished a research report on job satisfaction that gained wide-reaching attention, which is the earliest job satisfaction research in China. Zhang & Li (2001) conduct an empirical research on determinants of employees' job satisfaction, with focus on the influence of demographic and professional variables as well as different job dimensions. They compare their research findings with that of other previous research in China and point out that job elements influencing satisfaction include promotion, salary, communication and management, job nature, benefits, sense of identity, superiors and colleagues. Lu, Shi & Yang (2001) carried out in-depth research and analysis on previous satisfaction studies at home and abroad, and developed a job satisfaction scale with consideration of Chinese traditional cultures for Chinese employees. The scale consists of five factors, namely, leader behavior, management measures, work rewards, teamwork and job motivation. In turn Xie & Zhao (2001) point out in their research that job satisfaction should consist of five dimensions with 16 factors: the job itself (job suitability, responsibility matching, work challenges and work competence), work background (space quality, time arrangement, complete equipment and social benefits), work rewards (work recognition, career achievement, equity on salary and promotion opportunities), interpersonal relationship (cooperation harmony and information transparency), enterprise overall satisfaction (knowledge of the enterprise and organizational involvement). This grouping covers all the basic aspects of employees' job satisfaction.

Over the past five years, on the basis of MSQ, Du, Wang & Rao (2011) applied the Delphi method to develop a research questionnaire to investigate medical staff's views on medical practice environment and health care reform. In their findings, the most dissatisfied factors for medical staff include incomes, practice security, doctor-patient relationship, medical service system and living conditions. Their evaluation on their own work abilities, interpersonal relationship and health status were found to be relatively high while the overall satisfaction of medical staff is low. Cheng et al. (2011) have designed a survey questionnaire to study medical staff's job satisfaction. Their research subjects are 1,500 medical staff and the contents are divided into the medical staff's overall status quo and medical staff's job satisfaction, with 6 dimensions to be studied. The findings show that medical staff's overall satisfaction is low, and the different dimensions, scores from high to low, are social status, management system, professional development, security, work environment, and work

rewards.

The existing studies have wide and in-depth studies on job satisfaction, which has achieved some good results, yet some problems exist in research on the field of Chinese public hospitals. First, subjects of many researches are limited to a certain hospital, a certain community or a certain department. As a result, survey samples are hardly sufficient and the preciseness of research results is affected. Second, some researchers use self-developed survey questionnaires that are poor in reliability and validity, which to some extent affects the precision of research findings. Third, most researches only carry out single factor analysis on aspects such as salary, professional title and age, and only a small number of them analyze the influence of macroscopic aspects such as work environment and job characteristics on medical staff's job satisfaction. Therefore, it is of great necessity to develop a widely applicable medical staff's job satisfaction scale with sound reliability and validity. This research will apply mature job satisfaction scales to study multiple dimensions of job satisfaction of doctors in public hospitals, on the basis of a large number of samples of public hospitals in Shenzhen city.

2.2 Organizational Citizenship Behavior (OCB)

2.2.1 Definition of OCB

Barnard (1938) first introduced the concept of "willingness to cooperate", which is a key factor of formal organizational structure. He points out that organization is a consortium of collaborative forces. Katz (1964) puts forward three types of employees' behaviors that can improve organizational performance: First, employees voluntarily join and stay in the organization; second, employees finish tasks of certain roles with sound reliability; third, employees engage in activities beyond job responsibilities with creativity and initiative. This is the earliest research on OCB. Katz & Kahn (1966) distinguish in-role behavior from spontaneous behavior, pointing out that some behaviors will have significant influence on the survival and development of the organization, such as initiative to protect enterprise resources, voluntariness to provide meaningful suggestions for organizational development, attention to personal growth and willingness to cooperate with colleagues. On the basis of Katz's views, Bateman & Organ (1983) name the above-mentioned behaviors as "citizenship behavior", pointing out that citizenship behavior is needed for organizational development but is not officially stated. Smith, Organ & Near (1983) extend the "citizenship behavior" concept and develop it to "organizational citizenship behavior", OCB for short. In this

concept, the OCB is not part of the contractual tasks, punishments, or rewards and it is the employee's decision whether to have this behavior or not.

Organ (1988) first defines OCB as "individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organization". Williams & Anderson (1991) divide the dimensions of OCB into three different types: in-role behavior, behaviors that are aimed at other individuals and behaviors directed at the organization as a whole. Their views explain and define OCB from a broader perspective. Organ (1997) admits that the first version definition has its limitations, so he draws on Bornman & Motowidlo (1993)'s contextual performance concept and redefines the OCB, referring it as behaviors that contribute to maintaining and strengthening social and psychological aspects of the organization and that promote effectiveness of task performance.

2.2.2 Structure and Dimensions of OCB

The literature review shows that many studies on OCB structures have their theoretical basis, and scholars raise different views on the structure according to their own research.

(1) Two-Dimension Structure

Smith et al. (1983) first put forward two dimensions of OCB: altruism and general compliance. Altruism consists essentially of helping behaviors while general compliance means being a compliant employee. Williams & Anderson (1991) also divide OCB into two dimensions: OCB-individual, including behaviors that are aimed at other individuals and OCB-organization, including behaviors that are directed at the organization.

(2) Three-Dimension Structure

Three dimension research on OCB has benefited greatly from Organ's (1988) conceptualization of OCB as consisting of five distinct factors: Altruism (e.g. helping behaviors directed at specific individuals), conscientiousness (e.g. going beyond minimally required levels of attendance), Sportsmanship (e.g. tolerating the inevitable inconveniences of work without complaining), Courtesy (e.g. informing others to prevent the occurrence of work-related problems), and Civic Virtue (e.g. participating in and being concerned about the life of the company). Although this five-factor conceptualization reflects Organ's original thinking about OCB, recent research has found support for a three factor model of OCB (Podsakoff, Ahearne & MacKenzie, 1997). In this recent conceptualization, Conscientiousness is removed and Altruism and Courtesy are combined with cheerleading to form a single helping dimension (MacKenzie, Podsakoff, & Fetter, 1991, 1993; Podsakoff &

MacKenzie, 1994), resulting in three factors (i.e. Helping Behavior, Civic Virtue, and Sportsmanship).

(3) Four-Dimension Structure

Graham (1989) puts forward four dimensions: interpersonal assistance individual initiative, personal industry and loyal boosterism. Interpersonal helping means giving the colleagues a hand when they need help; individual initiative refers to employees' conscientiousness to work beyond role requirements of the organization; personal industry means one's performance is beyond what is required in the job description; and loyal boosterism means conscientiousness to safeguard organizational image.

(4) Five-Dimension Structure

Organ (1988) proposes five-dimension structure on the basis of two-dimension structure, which includes altruism, courtesy, conscientiousness, sportsmanship and civic virtue. Courtesy is defined as a discretionary behavior that aims at preventing work-related conflicts with others; conscientiousness is similar to the general compliance in the two-dimension structure; sportsmanship refers to the employee's tolerance of inconvenience and setbacks at work without complaining and instead showing positive attitude; civic virtue encompasses active involvement in taking responsibilities in the organization, indicating the individual's sense of identity to the organization.

Farh, Earley, & Lin (1997) provided important contributions to the ethnic Chinese community on OCB structure researches. In 1997, he studied OCB through 75 management leaders in Taiwan as subjects and concluded five dimensions of OCB scale under Taiwanese cultural background, including identification with the company, altruism towards colleagues, interpersonal harmony, protecting company resources and conscientiousness. Farh et al. (1997) found that the five dimensions in the western literature, namely conscientiousness, altruism, civic virtue, sportsmanship and courtesy, have cross-cultural implications, yet the connotations of these dimensions in the western culture do have some differences from those in Chinese culture. For example, in the western culture, helping colleagues with things beyond work will be seen as altruism, while in China, people tend to mix personal life and public life without clear distinction.

(5) Seven-Dimension Structure

On the research of OCB, Podsakoff et al. (2000) summarizes existing theories and concludes the existence of seven dimensions: helping, sportsmanship, organizational loyalty, organizational compliance, individual initiative, civic virtue and self-development.

(6) Ten-Dimension Structure

Farh, Hackett, & Liang (2007) summarizes OCB into ten dimensions on the basis of the previous five-dimension structure. Among the ten dimensions, five of them are similar to those of western ones, including initiative, interpersonal helping, view expression, activity participation and organizational image promotion. Besides, self-training, public activity participation, protecting and saving company resources, keeping workplace clear and tidy, and interpersonal harmony are five dimensions that are extensions of the western OCB.

2.2.3 Measurement Scale of OCB

On measurement of OCB, many scholars propose different measurement scales, among which are the following representatives. Smith et al. (1983) developed an OCB scale that contains altruism and general compliance factors based on interview results, which is the earliest OCB scale available. Organ (1988) designed a scale that covers five dimensions including altruism, courtesy, conscientiousness, sportsmanship and civic virtue. Mackenzie, et al. (1993) made adjustments on existing scales and formed a new OCB scale that spans on four dimension including altruism, good manners, sportsmanship, and civic virtue. Moorman & Blakely (1995) included four dimensions in the scale: interpersonal helping, individual initiative, personal industry and loyal boosterism. Podsakoff, Mackenzie, Moorman & Fetter (1990) develop a five-dimension OCB scale that includes altruism, courtesy, conscientiousness, civic virtue, and sportsmanship.

Farh et al. (1997) takes consideration of the Chinese status quo, as well as of the systemic and cultural differences from other countries and developed a five-factor OCB scale for Chinese employees. His research subjects are all Chinese companies or Chinese employees in his study process of information collection, questionnaire designing and test-takers sampling. In 2003, Farh, Zhong, & Organ (2004) developed another OCB scale for Mainland Chinese, which spans along 10 dimensions. This research will apply Farh's five-factor OCB scale that is in accordance with Chinese status quo, systems and cultures.

2.2.4 Overview of Research on OCB in the Medical Field

Researchers have carried out studies on multiple aspects of OCB in the medical field. Dyne, Graham & Dienesch (1994) study on OCB of employees in different organizations and with different professional backgrounds and find that medical staff shows more OCB as they tend to have more identification with organizational goals in their medical activities, and they have experience, discretionary power as well as decision-making power. Douglas (1997)

pointed out that the complexity of the medical industry makes hospital leaders in greater need to know the OCB concept. Chu et al. (2005) conducted a questionnaire survey on medical staff and found that OCB is a positive factor to promote hospital goal achieving as well as improve work performance. They suggest that job satisfaction, supervisor support, job involvement, and procedural justice had significant effect on nurses' citizenship behaviors. As Lv, Shi, Liu, Shen, Su, & Chen (2012) studied medical teams and found that team conflict and team trust influence OCB through the mediator of organizational justice. Lv (2013) studied subjects of medical staff and concluded that organizational limitation is negatively correlated with OCB, while organizational moral environment and process equity are positively related to OCB.

Researchers have made a substantial number of achievements in OCB theories, but there are still limitations and room for exploration. First, cross-cultural and cross-organizational research is not yet sufficient. Chinese researchers have found the evident differences of OCB concepts between Chinese culture and western culture, and there are OCB scales available developed by Farh et al. that can be applied in the Chinese cultural background (Farh, et al., 1997, 2007). Few empirical studies have been done aiming at clinical physicians, not to mention studies based on Chinese characteristics and targeting doctors in public hospitals. Second, there are few empirical OCB studies in China, especially insufficient in systemic research of employees' OCB under Chinese cultural background. Third, the existing research mostly uses a single sample for study. This thesis will apply Farh's Chinese OCB scale and carry out an empirical study on OCB of Chinese doctors. We will also discuss the structures and dimensions of OCB and verify Chinese OCB structures as well as Chinese OCB scales used in existing research done by Chinese scholars.

2.3 Burnout

2.3.1 Definition of Burnout

Freudenberger (1974), an American clinical psychologist, first proposed the term "burnout" which is used to describe a state of extreme exhaustion both physically and emotionally of individuals working in the helping profession when faced with excessive job requirements. He mainly focused on a clinical point of view to describe the long-term emotional and interpersonal stress faced by medical staff. Cherniss (1980) believes that burnout refers to the process of individual professional attitude and behavior that change in a negative form, the final result of which is individual's burnout.

The three-dimensional concept of burnout proposed by Maslach and Jackson (1981) includes emotional exhaustion, depersonalization and diminished personal accomplishment. The burnout here mainly discusses emotional stress in the work from the psycho-social perspective. It refers to a complex syndrome including emotional exhaustion, depersonalization and diminished personal accomplishment arising from the helping profession practitioners who are unable to effectively deal with the sustained stress in the work. Among the three symptoms, emotional exhaustion is the most obvious one as well as the core content. Emotional exhaustion represents the stress dimension of burnout and is embodied in individual's excessive consumption of emotional resources, exhaustion and energy loss; depersonalization represents the interpersonal dimension and is embodied in individual's negative, indifferent and alienating attitude; diminished personal accomplishment represents the self-evaluation dimension and refers to individual's negative attitude towards the value of work and their own competency. Thereafter, Maslach, Schaufeli, & Leiter (2001) further amended the notion, contending that burnout includes three dimensions, namely, exhaustion, cynical attitude and low professional efficacy; He elaborated on stress in burnout and explored individual's response and evaluation to themselves and others caused by burnout.

Pines and Aronson (1988) define burnout as a state of physical, emotional and spiritual exhaustion occurred when individuals are under excessive demands of emotional resources for a long period of time. Shirom (2003) argues that burnout should be seen as an emotional state in which individual's energy is worn out and it is manifested in physical fatigue, emotional exhaustion and cognitive boredom. Etzion (2003) believes that burnout is a slow process, which develops before the individual knows it. Once it develops to a particular critical point, the individual suddenly feels exhausted and begins to change his attitude towards others and work, and is unable to link this devastating experience with any particular stress.

2.3.2 Theories on Burnout

Maslach and Jackson (1981) proposed the concept of three-dimensional burnout and developed the three-dimensional structural model. Leiter and Schaufeli (1996) pointed out that initially burnout is limited to practitioners in the service industry such as teachers and nurses. In order to expand the scope of career covered in research on burnout, Maslach, et al. (2001) conducted a study on 4000 pastors, maintenance workers, technicians, nurses and professional managers and confirmed that those working in the non-service sector also had

burnout. Shirom (2003) argues that in Maslach's three dimensions of burnout, only the dimension of exhaustion is necessary and the other two dimensions are incidental. Depersonalization is a means individuals use to deal with exhaustion, and diminished personal accomplishment is the result of emotional exhaustion. He differentiated burnout from factors such as stress evaluation, coping behavior and results. Densten (2001) contends that the Maslach Burnout Inventory (MBI) is not perfect, proposing corresponding hypotheses in response to the three dimensions of MBI and finally putting forward a five-dimensional model of burnout, including psychological stress, physical strain, self-evaluation inefficacy, external-evaluation inefficacy and alienation. Maslash et al. (2001) further amended MBI and proposed that burnout includes three dimensions, namely, exhaustion, cynical attitude and low professional efficacy.

Hobfoll and Freedy (1993) put forward the Conservation of Resources Theory (COR), the basic viewpoint of which is that people are born to obtain and conserve some of the resources that they consider as precious, such as material goods, social resources and managerial resources. Only when individuals feel the resources are threatened or insufficient to generate rewards, will there appear stress and burnout. The threat can come from work requirements, loss of work resources (such as unemployment) or inadequate rewards for hard work. The core of his theory is that work demands and work resources can be used to forecast the three dimensions of burnout, because the psychological experience resulted from loss and harvest is different. It is found that high work demands are much more prone to result in burnout. However, according to Shirom (2003), in COR only individual's energy resources are related to burnout. Once individuals are faced with loss of energy resources or are at the risk of being unable to get back the resources after they are invested, they are likely to suffer from job stress. When individuals are in a vicious cycle of experiencing resource loss for a long period of time, they will feel burnout, which is manifested by physical, emotional and cognitive exhaustion.

On the basis of COR theory, Demerouti, Bakker, Nachreiner and Schaufeli (2001) proposed The Job Demands-Resources Model (JD-R), contending that burnout is caused by two kinds of job characteristics, namely, job demands and job resources. The former refers to aspects in the work needing demands and it is related to psychological contribution, while job resources refer to characteristics that can help achieve job goals, reduce job requirements or promote individual growth while the JD-R model is used to predict burnout through the complementary effect of job demands and job resources rather than their interaction. Later,

Bakker and Demerouti (2007) noted that job demands and job resources can be used to predict different dimensions of exhaustion. To be specific, job demands are used to predict emotional exhaustion, while job resources are used to predict individuality.

2.3.3 Measure of Burnout

There have always been disagreements in terms of burnout measurement. Different researchers have devised burnout scales from different perspectives. According to the literature, the scales mainly include Maslach and Jackson's (1981) Maslach Burnout Inventory (MBI), Pines and Aronson's (1988) Burnout Measure (BM), Shirom and Melamed's (Shirom, Melamed & Toker, 2006) Shirom-Melamed Burnout Measure (S-MBM), and the Oldenburg Burnout Inventory (OLBI) proposed by Demerouti et al. (2001).

(1) MBI Burnout Inventory

Maslach and Jackson (1981) formulated the MBI-GS on the basis of observation and case study of people working in the helping professional, and this inventory is currently the most widely used measurement tool (Leiter and Schaufeli, 1996). The MBI scale has three revised editions, including MBI-Human Service Survey revised by Leiter & Maslach (1999), MBI-Educators Survey revised by Maslach Schaufeli and Leiter (2001) as well as MBI-General Survey revised by Maslach, Schaufeli and Leiter (2001). The MBI-GS includes three sub-scales, namely, emotional exhaustion (9 items), cynicism (5 items) and professional efficacy (8 items). Emotional exhaustion (EE) refers to feelings of being depleted of energy and drained of sensation due to excessive psychological demands (Boles et al 2000 Cynicism reflects a negative attitude with weariness, indifference and mistrust toward the motivation of others' behaviors and credit. Professional efficacy includes the social and non-social professional achievements made by individuals in the work (Maslach et al. 2001).

(2) Burnout Measure

The burnout scale devised by Pines and Aronson (1988) is a 21-entry diagnostic tool to measure self-burnout. It is composed of three parts: physiological exhaustion, emotional exhaustion and mental exhaustion, each containing seven entries. Through exploratory factor analysis on BM, Kleiber and Enzmann (1990) found that all the entry loads fall on three factors, namely, exhaustion, low morale and lack of motivation.

(3) S-MBM Scale

Shirom, Melamed and Toker (2006) formulated an S-MBM based on the Resource Storage Theory. S-MBM consists of three parts: emotional exhaustion (4 items), physical fatigue (6 items) and cognitive boredom (6 items). The total score of the scale is used to

indicate the level of burnout.

(4) Oldenburg Burnout Inventory

The OLBI scale devised by Demerouti et al. (2001) consists of two sub-scales, namely, exhaustion (seven items) and work alienation (18 items). Exhaustion here refers to a general feeling in a broad sense including physical, emotional and cognitive depletion such as physiological fatigue, excessive workload, eagerness to rest and emptiness. Work alienation refers to keeping distance from one's work and taking a negative attitude and behavior to deal with work-related people or things. In the exhaustion dimension, emotional requirements are not considered as the direct source of exhaustion; instead, they are taken as the result of sustained work stress.

The BM scale does not limit burnout in the "occupational field where individuals are the objects who receive services"; instead, the scale is rather comprehensive and can be applied in everyday life. S-MBM views burnout as a one-dimensional state of exhaustion, and this exhaustion is specified to the aspect of "energy resources". OLBI burnout scale is devised in accordance with the MBI model and is an encompassing and general scale (Jia & Zhu, 2006). In MBI-HSS, some items are directly targeted to the individual clients. Therefore, it is used in occupations where dealing with people is quite frequent. MBI-ES is targeted at teachers. MBI-GS is by far the most widely used and accepted Measure tool for burnout. In this study, MBI-GS will be used and it will be revised in accordance with Chinese cultural elements.

From the empirical perspective, in recent years, there have been quite a few studies on doctors' burnout, but most of them have focused on the relationship among doctors' burnout, individual factors and social organizational factors, with no study exploring the relationship among multiple variables and burnout simultaneously as well as the consequences of doctors' burnout. In addition, apart from introducing the latest research results, it is also imperative to proactively compile or revise a doctor burnout scale that has statistical and practical significance and is in line with China's national conditions. The research methods should transfer from the existing horizontal comparative study to the vertical follow-up study so as to find out the relationship between doctors' burnout and other factors and improve the theoretical models of doctors' burnout. From the theoretical perspective, there are still some limitations in the current research. First, the exploration of individual factors is insufficient, particularly some work-related individual factors such as work input have not been touched upon by researchers. Therefore, the conclusion that work situation and organizational factors exert more influence on burnout than individual factors is immature. Second, burnout is in

essence a manifestation of individual work motivation and work emotions. However, in the current burnout research, the theoretical paradigm in motivation and emotion psychology has not been used to interpret burnout. Finally, intervention studies on doctors' burnout in China are very broad and generally with no mature theories, let alone corresponding empirical research. An empirical study will be carried out on the burnout of doctors in public hospitals in Shenzhen, a special economic zone of China, to complement the existing research on burnout and analyze the reasons for doctor's burnout in those hospitals.

2.4 Relationships among Job Satisfaction, OCB and Burnout

2.4.1 Relationship among Job Satisfaction and OCB

Leading studies on the relationship between job satisfaction and OCB are as follows: Bateman and Organ (1983) found that employees with a high degree of job satisfaction are prone to exhibit OCBs conducive to the organization. They believe that the relationship between job satisfaction and OCB is closer than that of job satisfaction and performance and that job satisfaction and OCB are positively correlated. In turn, Organ (1988) contends that job satisfaction and OCB are positively correlated as job satisfaction influences the dimension of altruistic behavior of OCB: the higher the job satisfaction is, the more a positive emotional state will take place which, in turn, will spur altruistic behavior. Organ and Ryan (1995) found that when job satisfaction, sense of fairness, organizational commitment and OCB reached a significant level, job satisfaction and OCB will be positively correlated. Berkowitz (1996) believes that employees are more likely to demonstrate altruistic behaviors in their OCB in a positive emotional state, and are less likely to do so in a negative emotional state.

There are also a few studies on the relationship among job satisfaction and OCB in China. Chen and Xie (2003) analyzed employee satisfaction research conducted by other scholars, and linked job satisfaction with OCB, reaching a conclusion that job satisfaction and OCB are positively correlated. Wu and Wu (2005), based on the study of knowledge work group, proposed that there was a significant positive correlation between OCB in the interpersonal level and job satisfaction of team members. Shi (2008) took business employees as research objects and found that job satisfaction and OCB had a significant positive correlation and that the overall job satisfaction, leaders, colleagues, work return, work environment and self-development dimensions all had significant positive correlation with OCB. Zhang (2010) studied employees' perception of the relationship among organizational

fairness, job satisfaction and the organization. Using job satisfaction as a mediating variable, he found that organizational fairness affects OCB through the mediating variable of job satisfaction and the influence is more significant than the situation when the organizational fairness directly affects OCB. When employees generate the perception of fairness towards the organization, they will correspondingly obtain job satisfaction, and job satisfaction will in turn help generate OCBs. Wang (2014) found that job autonomy had a positive correlation on OCB and job satisfaction plays an intermediary role between job autonomy and OCB.

It is assumed in this study that job satisfaction of doctors in public hospitals has a positive correlation with OCB. That is to say, if employees' job satisfaction is higher, they will earnestly fulfill the requirements of their role (basic working and job duties) and proactively demonstrate extra-role behavior (extra job responsibilities). In that case, the level of OCB is likely to be higher. Instead, the lower the employees' job satisfaction is, the more likely they will work in a negative attitude and the level of OCB will be lower.

2.4.2 Relationship between Job Satisfaction and Burnout

According to Visser, Smets and Oort's (2003) study on medical staff in the Netherlands, high work pressure and low job satisfaction are most likely to lead to burnout. That is to say, job satisfaction is an important predictor of burnout. In his research on the structural model of burnout, job stress, job satisfaction and their relationship among middle school teachers, Xiang (2005) found that job satisfaction had a direct predictive effect on burnout and existed as a mediating variable between job stress and burnout. According to Yin, Wang and Fan's (2008) study on public hospital doctors, satisfaction of the job itself, occupational risk and off-duty arrangements are the major factors affecting doctors' burnout. In the study on 126 Israeli pediatricians, Kushnir and Cohen (2008) found that there was a significant correlation between burnout, job stress and satisfaction.

The study assumes that job satisfaction of doctors in general public hospitals have a negative correlation with burnout. That is to say, higher job satisfaction will exert positive influence on employees' behavior. Employees will be healthier both physically and mentally and the level of burnout will be lower. On the contrary, low job satisfaction will have a negative influence on employees' behavior. The employees' physical and mental health will be worse and the level of burnout will be higher.

2.4.3 Relationship between OCB and Burnout

In terms of research on the relationship between OCB and burnout, Cropanzano, Rupp and Byrne (2003) conducted an empirical research and proved that emotional exhaustion

would predict job performance, two classes of OCB (OCBO-OCB beneficial to organizations , and OCBS - OCB beneficial to one's supervisor) and turnover intentions. They also concluded that the relationship between emotional exhaustion and effective work behaviors would be mediated by organizational commitment. Chiu and Tsai (2006) found that emotional exhaustion and diminished personal accomplishment were related negatively to OCB, whereas depersonalization had no independent effect on OCB. Job involvement mediated the relationships among emotional exhaustion, diminished personal accomplishment and OCB. Martin, Hein & Hetty (2007) conducted an empirical study on the relationship between burnout and OCB, reaching a conclusion that the professional efficacy dimension of burnout has a negative correlation with OCB. According to Salehi and Gholtash (2011), burnout also has a negative correlation with OCB.

The review of the literature in China shows that there is not too much research on the relationship between OCB and burnout since we could only find a few academic articles on this subject. Liu, Bao and Zhang (2006) took business employees as the research subjects, reaching a conclusion that there is a negative correlation between burnout and OCB. Tang and Shen (2007) chose account managers in advertising companies as the research subjects, and found that the subjects had severe burnout with a significant negative correlation with OCB. Gao,Li, & Gao. (2009) chose the party and government officials as research subjects and found that there was a significant negative correlation between burnout and OCB. Pan, Tan, Qin, & Wang (2010) pointed out that burnout played an intermediate role in teachers' sense of organizational fairness and OCB, and served as a significant negative predictive variable of OCB. According to Liang (2013), burnout has a negative impact on OCB, and burnout can be an effective negative predictive variable of OCB; the emotional exhaustion dimension of burnout has a negative correlation with the dimensions of altruism, organizational identity and interpersonal harmony in the OCB. Cynicism has a negative correlation with all the five dimensions of OCB, and the dimension of occupational efficacy has a negative correlation with the dimension of interpersonal harmony.

In the literature, it is commonly believed that burnout is negatively correlated with OCB, and some suggests that burnout is a predictor of OCB (Liang, 2013), but without strong evidence. We argue that when employees are more likely to demonstrate OCB behaviors such as altruistic or conscientiousness or interpersonal harmony, they are less likely to involve in a negative emotional state and experience burnout, because certain dimensions of OCB behavior like altruism and interpersonal harmony may help to create a positive working

atmosphere to minimize work conflict or pressures, thus helping to reduce burnout.

2.5 Summary of Literature and Establishment of Model Hypothesis

Through the above studies it can be seen that although several Chinese researchers have conducted extensive and in-depth research on job satisfaction, OCB and burnout, there are still some problems:

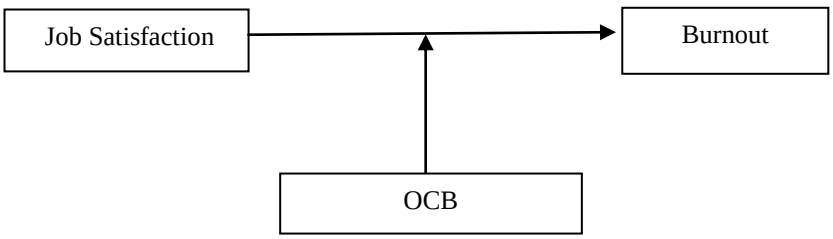
(1) There are few empirical studies on clinical doctors, and particularly there is no literature on research on China's general hospital doctors. The existing research on doctors' job satisfaction, OCB or burnout in China mostly consists of single-unit sample surveys, with few large-scale random sampling empirical studies. As a result, the conclusions are difficult to be applied to other fields due to the small scale of the sample.

(2) In terms of research content, we could not find any empirical study on how doctors' organizational citizenship behavior affects burnout. Literature shows that there are many discussions on inter-relations between job satisfaction, OCB and burnout and their relationship with other variables such as job stress and organizational equity. However, there is limited systemic research on the relationship of the three factors as a whole, and there is no research on the possible interaction between the three factors.

In this empirical study, statistical analysis techniques and methods such as factor analysis, descriptive statistics, one-way analysis of variance, correlation analysis, multi regression analysis are used to study doctors' job satisfaction, OCB and burnout as a whole in China's public hospitals, explore the relationship among the three dimensions and fill the gaps of such research. As a result, this research can serve as a reference for future study.

It is assumed in this study that job satisfaction of doctors in public hospitals has a positive influence on OCB, and a negative influence on burnout. That is to say, the higher the job satisfaction is, the higher level of the OCB will be, and the lower the degree of burnout will be; the lower the job satisfaction is, the lower the level of OCB will be and the higher the degree of burnout will be; OCB also has a negative impact on burnout, and will moderate the link between job satisfaction and burnout.

Figure 2-1 Theoretical Model



Source: The Author

Based on the literature, the following hypotheses are put forward:

Hypotheses

H1: Job satisfaction is negatively associated with burnout.

H2. Job satisfaction is positively associated with OCB.

H3: OCB is negatively associated with burnout.

H4: OCB acts as a moderator between job satisfaction and burnout. The more OCB behaviors the doctors perform, the less is the magnitude of the job satisfaction influence in protecting doctors from burnout.

Chapter 3: Research Method

This chapter will introduce the research methods, data collection used in this research as well as the quality control.

3.1 Research Methods

The research method adopted in this study is a combination of quantitative questionnaire and qualitative interviews. The reason why this method is adopted is because the research is targeted at identifying the extent and direction of the relationship among job satisfaction, OCB and burnout. In terms of the extent of the relationship among variables the questionnaire is used to obtain data, which are in turn analyzed and summarized for analysis. Afterwards, interviews were conducted to enrich the discussion and explore the causes behind the results.

3.1.1 Questionnaire

The research questionnaire consists of four parts: demographic information, job satisfaction, OCB and burnout. The sources, content and scoring of all the parts in the questionnaire are as follows:

(1) Demographic Information

The information mainly consists of eight variables of individual characteristics, including gender, age, professional title, education level, work departments, marital status, average monthly income and tenure. There is a corresponding code for every category of answer, which facilitates the quantitative analysis.

(2) Job Satisfaction Scale

The Short Minnesota Satisfaction Questionnaire (MSQ) (Weiss et al.1967) was used in this research, and the five-point Likert scale was adopted for the questionnaire: 1~5 scores for choices from "very dissatisfied " to "very satisfied". A higher score means that the subjects' satisfaction with the work is higher.

(3) OCB Scale

Farh's (1997) Chinese Workers' OCB Scale is used in this research, and the five-point Likert scale is used for the questionnaire: 1~5 scores for choices from "very dissatisfied" to "very satisfied". A higher score means that the subjects' OCB is higher.

(4) Burnout Scale

The scale used in this study is the Chinese version of MBI-GS (Maslach, Schaufeli and

Leiter, 2001), and the questionnaire is the seven-point Linkert scale: 0~6 points for choices from "never" to "everyday". The higher the score is, the higher the level of subjects' burnout is.

With authorization from the scale authors, the Chinese version of MBI-GS was translated and revised in China. Results proved that the scale had high reliability and validity in China. The scale consists of three parts: Emotional Exhaustion, Cynicism and Reduced Personal Accomplishment. The Emotional Exhaustion sub-scale includes five questions, the Cynicism sub-scale includes five questions, and the Reduced Personal Accomplishment sub-scale includes 6 questions. So in total there are 16 questions in the questionnaire (The structure of the revised MBI-GS only 15 questions in the questionnaire at all, is identical with that of the original MBI-GS. the question "I feel I treat some recipients as if they were impersonal "objects" is deleted, because it is found that the cross load of an item in Cynicism is relatively high. When the item is deleted and factor analysis is done again, the results turn out to be satisfactory.). Some Chinese scholars have adopted MBI-GS in their research and tested its reliability and validity. For example, Zhu (2006) chose medical staff as research subjects and found that the coefficients of internal consistency of Emotional Exhaustion, Cynicism and Reduced Personal Accomplishment are 0.832, 0.772 and 0.811 respectively. In Sheng's (2009) research on policemen, the coefficients of internal consistency of Emotional Exhaustion, Cynicism and Reduced Personal Accomplishment are 0.839, 0.820 and 0.816 respectively.

3.1.2 Interviews

If results from the questionnaire are inconsistent with the research hypothesis, interviews have been conducted to explore the reasons for the inconsistency. With an overall consideration of gender, age, professional title, education level and other factors, convenience sampling was used to select doctors for the interviews. The interview outline was developed beforehand. Usually the data collection site was the workplace (a private environment) of the subjects interviewed. An appointment was made beforehand to ask permission for the interview, and the subjects were informed of its purpose and content and were ensured that all the results and data would be kept confidential.

3.2 Data Collection

The research subjects are doctors in Shenzhen's public hospitals with more than 1,000 beds. Subjects chosen in the sample must meet the following criteria: first, doctors who have

signed employment contract with the hospital and got paid from the hospital; second, they must be registered doctors with practicing qualification.

3.2.1 Questionnaire

Random sampling was adopted as doctors with a medical license professional qualification were randomly selected by the human resources department of the respective hospitals. Questionnaires with different colors were used to identify these different hospitals.

This research has sent out 571 questionnaires in total and collected 553 with a response rate of 96.8%. After removing invalid questionnaires, there were 485 valid complete responses.

Among the 485 valid questionnaires, the number of those in the four survey spots is shown in Table 3-1, 112 (23.1%) for Pecking University Shenzhen Hospital, 140 (28.9%) for Shenzhen Second People's Hospital, 144 (29.7%) for Shenzhen People's Hospital, and 89 (18.4%) for Shenzhen Traditional Chinese Medicine (TCM) Hospital.

Table 3-1 Summary of Samples

Name of Survey Hospital	Number	Percentage
Peking University Shenzhen Hospital	112	23.1%
Shenzhen Second People's Hospital	140	28.9%
Shenzhen People's Hospital	144	29.7%
Shenzhen Traditional Chinese Medicine (TCM) Hospital	89	18.4%

Source:The Author

3.2.2 Interviews

With gender, age, job title, department and other factors taken into consideration, the thesis uses random sampling and selected six to eight doctors in each hospital. In total, 26

doctors have been interviewed and details may be seen in Table 3-2. Usually the data collection site was the work place (a private environment) of the interviewed subjects.. Appointments were made beforehand to ask for permission for the interview, and the subjects were informed of its purpose and content. Each interview took about 30-45 minutes on-site and written records were registered every time.

Table 3-2 Summary of Interviewees

No.	Doctor	Employer	Department	Gender	Title	Education	Age	Tenure
R1	Dr. Wu	People's Hospital	Dept. of Respiratory Medicine	Female	Associate chief physician	Master degree	42	15
R2	Dr. Song	People's Hospital	Digestive System Dept.	Female	Resident doctor	Bachelor degree	33	5
R3	Dr. Du	People's Hospital	Dept. of Hand Surgery	Male	Associate chief physician	Master degree	47	18
R4	Dr. Wang	People's Hospital	Dept. of Thoracic Surgery	Male	Chief physician	PhD degree	53	26
R5	Dr. Zhang	People's Hospital	Dept. of Gynecology and Obstetrics	Female	Associate chief physician	Master degree	46	18
R6	Dr. Chen	People's Hospital	Dept. of Pediatrics	Male	Attending physician	Bachelor degree	35	8
R7	Dr. Zhang	People's Hospital	Dept. of Stomatology	Male	Resident doctor	Master degree	34	5
R8	Dr. Li	People's Hospital	Dept. of Dermatology	Female	Associate chief physician	Bachelor degree	47	18
E1	Dr. Xu	Second People's Hospital	Dept. of Urology	Female	Attending physician	Master degree	39	12
E2	Dr. Zhuang	2nd People's Hospital	Dept. of Gastrointestinal Surgery	Male	Resident doctor	Bachelor degree	32	5
E3	Dr. Luo	2nd People's Hospital	Dept. of Gynecology and Obstetrics	Female	Attending physician	PhD degree	38	9
E4	Dr. Zhang	2nd People's Hospital	Dept. of Pediatrics	Female	Associate chief physician	Master degree	48	19
E5	Dr. Zhong	2nd People's Hospital	Dept. of Anesthesiology	Male	Attending physician	Master degree	42	13

E6	Dr. Peng	2nd People's Hospital	Dept. of Stomatology	Female	Attending physician	Master degree	38	9
B1	Dr. Yi	Peking University Hospital	Dept. of Neurology	Male	Chief physician	PhD degree	50	20
B2	Dr. Huang	Peking University Hospital	Dept. of Cardiology	Male	Attending physician	Bachelor degree	33	7
B3	Dr. Wei	Peking University Hospital	Dept. of Thyroid and Breast Surgery	Male	Chief physician	PhD degree	52	25
B4	Dr. Li	Peking University Hospital	Dept. of Urologic Surgery	Male	Associate chief physician	Bachelor degree	39	12
B5	Dr. Wu	Peking University Hospital	Dept. of Gynecology and Obstetrics	Female	Chief physician	Master degree	55	28
B6	Dr. Hu	Peking University Hospital	Ophthalmology Dept.	Female	Resident doctor	Bachelor degree	29	2
Z1	Dr. Yang	TCM Hospital	Nephrology Dept.	Male	Associate chief physician	Master degree	40	13
Z2	Dr. Chen	TCM Hospital	Dept. of Urologic Surgery	Male	Attending physician	Bachelor degree	35	8
Z3	Dr. Wu	TCM Hospital	Dept. of Gynecology and Obstetrics	Female	Resident doctor	Bachelor degree	30	3
Z4	Dr. Wang	TCM Hospital	Dept. of Pediatrics	Female	Resident doctor	Bachelor degree	27	3
Z5	Dr. Ouyang	TCM Hospital	Oncology Dept.	Male	Chief physician	PhD degree	53	26
Z6	Dr. Yang	TCM Hospital	Otolaryngological Dept.	Male	Associate chief physician	PhD degree	49	20

Source: The Author

3.3 Quality Control

In order to control research errors and improve the objectivity of the conclusions, comprehensive quality control was applied at various stages of this research.

(1) In terms of research design, the scope of research subjects was strictly defined. The sampling plan was formulated in a detailed and feasible manner. The design effect issue of multistage sampling was considered in determining the sampling size so as to ensure that the research tools were scientific and precise.

(2) In terms of on-site research: Before the formal research was carried out, there was a small-scale pre-test which helped to improve the questionnaire. The researcher conducted an on-site training programs offered to the questionnaire administrators so as to enable them to master the necessary skills and teach them how to handle emergencies. During the survey, the subjects were informed in detail of the purpose, meaning, and filling method so that they could fully understand the research and were willing to take part in. When recovering the questionnaires, they have been double-checked to verify questionable and missing items so as to improve the accuracy and effectiveness of the questionnaire. Every time a random 10% of the collected data were re-checked. These measures explain the high return rate of this survey.

(3) In terms of data collection and analysis: the data collected were further sorted and checked to eliminate invalid questionnaires. Double parallel input method was used to establish a database so as to minimize system errors.

Chapter 4: Data Analysis and Results

4.1 Quantitative Data Analysis

The questionnaire data was processed using descriptive statistics, exploratory factor analysis, ANOVA analysis and multiple regression analysis techniques. Exploratory factor analysis was used to assess the validity of the scales employed in this study. Separate factor analyses were performed for job satisfaction, OCB and burnout. ANOVA analysis was performed to investigate differences on key variables between different demographic groups in the study. Multiple regression analysis was used to examine the explanatory power and moderating effect in the model.

4.2 Quantitative Results

4.2.1 Demographic Variables

Eight demographic variables were used as control variables in this study. The majority of the respondents were married (65.8%) and female (56.9%). Most had master or Phd degrees. Sixty five percent had been working at their current hospitals for more than 10 years. Most of the subjects held senior positions in the hospital with 68% being associate chief physicians or chief physicians. Table 4-1 reports the results.

Table 4-1 Demographic Statistics of Survey Subjects (n=485)

Variable	Frequency/Mean	Percentage (%)
Age		
≤35	112	23.1
36-45	258	53.2
≥46	115	23.7
Gender		
Male	209	43.1
Female	276	56.9
Marriage Status		
Married	319	65.8
Single	80	16.5
Others*	86	17.7

Monthly Income (Unit: RMB)		
≤10000	211	43.5
10001-15000	190	39.2
15001-20000	84	17.3
Professional Title		
Resident Doctor	62	12.8
Attending Physician	93	19.2
Associate Chief Physician	232	47.8
Chief Physician	98	20.2
Educational Background		
Bachelor Degree	164	33.8
Master Degree	225	46.4
PhD Degree	96	19.8
Tenure		
5 years and under	101	20.8
6-10 years	68	14.0
11-15 years	57	11.8
16-20 years	176	36.3
21 years and above	83	17.1
Department		
Internal Medicine	78	16.1
Surgery	90	18.6
Gynecology and Obstetrics	65	13.4
Pediatrics	44	9.1
Orthopedics	55	11.3
Emergency	27	5.6
Anesthesiology	43	8.9
Others	83	17.1

Note: Others* include divorced and widowed.

Source: The Author

4.2.2 Descriptive Analysis of Key Variables

Descriptive statistics of key variables are reported as follows.

From statistics of Table 4-2, the overall average score of job satisfaction of the doctors in the survey is low, so is the average scores of intrinsic satisfaction as well as of extrinsic satisfaction. This means a low level of overall job satisfaction, including intrinsic and extrinsic satisfaction among these doctors. Doctors in this survey showed low scores of overall OCB as well as of its different dimensions including identification with company, altruism, interpersonal harmony, protecting organizational resources, and conscientiousness, which means that the average level of these aspects among doctors is low. The statistics show that the average scores of burnout and its dimensions including emotional exhaustion, cynicism, and professional efficacy are in the intermediate level, of which emotional exhaustion had the highest score. This indicates that the overall burnout level of the doctors in this survey is medium, and the level of emotional exhaustion is higher than that of other dimensions. It indicates that doctors in this survey experience an intermediate level of burnout and their emotional exhaustion is evident.

Table 4-2 Descriptive Statistics of Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
Job Satisfaction	13	35	24.5	4.8
In_Satisfaction	8	21	15.8	3.5
Ex_Satisfaction	5	15	8.7	2.6
OCB	40	77	59.1	8.3
Identity	8	19	13.1	2.5
Altruism	8	15	11.7	2.2
Interpersonal harmony	5	10	8.0	1.8
Protection	4	15	11.5	2.9
Conscientiousness	8	18	14.7	2.7
Burnout	13	56	33	10.5
Exhaustion	7	24	16.4	5.8
Cynicism	3	20	10.4	5.6
Professional Efficacy	3	13	6.1	4.4

Source: The Author

4.2.3 Factor Analysis

(1) Factor Analysis of Job Satisfaction

Originally, the short-form questionnaire measured both intrinsic and extrinsic satisfaction with 20 items. From these, 12 items measured intrinsic satisfaction (1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16 & 20), six extrinsic (5, 6, 12, 13, 14 & 19), and two were considered general items (17 & 18, according with Jewell, Beavers, Kirby, & Flowers, 2001). However, after Schriesheim, Powers, Scandura, Gardiner & Lankau (1993) having raised grounded doubts, some of the items were reclassified with the 4th, 13th, 14th and 19th getting into the "general item" category and the 8th changing from intrinsic to extrinsic, and both the general 17th and 18th items being taken as measuring extrinsic satisfaction. Therefore, revising each scale changed intrinsic to 10 items (1, 2, 3, 7, 9, 10, 11, 15, 16 & 20), extrinsic to six items (5, 6, 8, 12, 17 & 18) and general to four items (4, 13, 14 & 19). Despite this when comparing for psychometric properties, Hirschfeld (2000) found that the revisions did not make much difference and therefore some variations could be found, and are acceptable, regarding item factor loadings.

A confirmatory factor analysis with the original factor structure showed unacceptable fit indices both for the 1967 version (CMIN/DF=28.100, CFI=.282, RMSEA=.237, SRMR=.21) as well as for the 1993 proposal (CMIN/DF=28.962, CFI=.268, RMSEA=.240, SRMR=.21) and therefore an exploratory factor analysis of all 20 items was conducted in this thesis. An initial exploration showed a mixed solution and, after cleaning on the basis of facial validity and reliability, a final two-factor solution was found which is both valid (KMO=.669, Bartlett's X2 (36)=2433.570, $p<.001$), parsimonious and meaningful (both intrinsic and extrinsic items loaded together). Results are shown in Table 4-3, Appendix1-Table 1, and Appendix1-Table 2.

Table 4-3 Job Satisfaction Rotated Component Matrixes

	Component	
	1	2
js14_e	.925	.055
js12_e	.822	-.177
js17	.808	.338
js13_e	.797	.119
js19_g	.060	.799
js8_i	-.251	.771
js18	.152	.759
js10_i	.100	.730
js11_i	.149	.652

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Source: The Author

With intrinsic satisfaction measured with five items (e.g. "The way my job provides for steady employment", "The chance to tell people what to do", "The chance to do something that makes use of my abilities", "The way my co-workers get along with each other", and "The praise I get for doing a good job", Cronbach's alpha=0.799).

And extrinsic satisfaction measured with four items ("The way company policies are put into practice", "My pay and the amount of work I do", "The chances for advancement on this job", and "The working conditions", Cronbach's alpha=0.846), explaining both 65.2% of total variance after varimax rotation.

(2) Factor Analysis of OCB

A confirmatory factor analysis with the original five factor structure showed unacceptable fit indices (CMIN/DF=17.237, CFI=.604, RMSEA=.183, SRMR=.12) and therefore an exploratory factor analysis of all 20 items was conducted.

An initial exploration showed a mixed solution and, after cleaning on the basis of facial validity and reliability, a final five-factor solution was found which replicate most of the original scale. This solution is valid (KMO=.768, Bartlett's X2 (120)=4376.082, p<.001), parsimonious and meaningful. Results are shown in the Table 4-4, Appendix1-Table 3, and Appendix1-Table 4.

The five factors, which explained 73.6% total variance after varimax rotation, were:

Conscientiousness (4 items, e.g. "Takes one's job seriously and rarely makes mistakes", "Complies with company rules and procedures even when nobody watches and no evidence can be traced", "Does not mind taking on new or challenging assignments", and "Tries hard to self-study to increase the quality of work output", Cronbach's alpha=.823);

Altruism (3 items, e.g. "Willing to assist new colleagues to adjust to the work environment", "Willing to help colleagues solve work-related problems", and "Willing to coordinate and communicate with colleagues", Cronbach Alpha=.816),

Protection (3 items, e.g. "Takes credits, avoids blames, and fights fiercely for personal gain. (R)", "Conducts personal business on company time (e.g., trading stocks, shopping, going to barber shops). (R)", and "Uses company resources to do personal business (e.g., company phones, copy machines, computers, and cars). (R)", Cronbach's alpha=.793).

Identification with company (4 items, e.g. "Willing to stand up to protect the reputation of the company", "Willing to stand up to protect the reputation of the company", "Makes constructive suggestions that can improve the operation of the company", and "Actively attends company meetings", Cronbach's alpha=.716), and

Interpersonal harmony (2 items, e.g. "Uses illicit tactics to seek personal influence and gain with harmful effect on interpersonal harmony in the organization.(R)", and "Uses position power to pursue selfish personal gain. (R)", RSB=.714).

Table 4-4 OCB Rotated Component Matrixes

	Component				
	1	**2**	**3**	**4**	**5**
OCB 18_ Conscientiousness	.816	.238	.109	.168	.226
OCB 19_ Conscientiousness	.750	.097	-.130	.072	.141
OCB 20_ Conscientiousness	.741	.301	.335	.027	.158
OCB 17_ Conscientiousness	.631	.376	.328	-.001	-.247
OCB 8_ Altruism	.272	.865	.225	.067	.086
OCB 6_ Altruism	.167	.840	.122	-.078	.075
OCB 5_ Altruism	.464	.653	-.081	.355	.236
OCB 13_r_ Protection	.022	.146	.921	.089	.049
OCB 12_r_ Interpersonal harmony	.012	.057	.820	.229	.155
OCB 14_r_ Protection	.396	.135	.598	-.030	.213
OCB 3_ Identification with company	-.156	-.102	.095	.795	.198
OCB 4_ Identification with company	.222	.298	-.034	.735	.232
OCB 2_ Identification with company	.255	.011	.279	.686	-.109
OCB 1_ Identification with company	.056	.000	.055	.646	-.496
OCB 10_r_ Interpersonal harmony	.133	.087	.183	.041	.792
OCB 11_r_ Interpersonal harmony	.421	.228	.235	.159	.668
Reliability (Cronbach's alfa / r_{SB})	.823	.816	.793	.716	.714

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Source:The Author

(3) Factor Analysis of Burnout

A confirmatory factor analysis with the original three factor structure showed unacceptable fit indices (CMIN/DF=14.984, CFI=.751, RMSEA=.170, SRMR=.0867) and therefore an exploratory factor analysis of all 15 items was conducted.

An initial exploration showed a mixed solution and, after cleaning on the basis of facial validity and reliability, a final three-factor solution was found which replicates most of the

original scale. This solution is valid (KMO=.746, Bartlett's X2 (120) = 4506.128, p<.001), parsimonious and meaningful. Results are shown in the Table 4-5, Appendix1-Table 5, and Appendix1-Table 6.

Table 4-5 Burnout Rotated Component Matrixa

	Component		
	1	**2**	**3**
bt4	.897	.080	.014
bt5	.859	.248	.026
bt2	.846	-.019	-.051
bt3	.791	.346	.045
bt1	.751	.025	-.062
bt7	.191	.841	.076
bt8	.031	.826	.072
bt9	.076	.818	-.033
bt6	.203	.811	.210
bt14_r	-.044	.064	.941
bt15_r	-.027	.210	.887
bt13_r	-.071	.153	.840
bt12_r	.066	-.088	.672
Cronbach's alpha	**.892**	**.841**	**.853**

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Source: The Author

The three factors, which explained 72.5% total variance after varimax rotation, were:

Emotional exhaustion (5 items, e.g. ""I feel emotionally drained from my work", "I feel used up at the end of the workday", "I feel fatigued when I get up in the morning and have to face another day on the job", "Working with people all day is really a strain for me", "I feel like I am at the end of my rope", Cronbach's alpha=.892);

Cynicism (4 items, e.g. "I have become more callous toward people since I took this

job", "In my work, I deal with emotional problems very calmly", "I worry that this job is hardening me emotionally", "I don't really care what happens to some recipients", Cronbach Alpha=.841),

Professional Efficacy (4 items, e.g. "I deal very effectively with the problems of my recipients(R)", "I feel exhilarated after working closely (R)", "I have accomplished many worthwhile things in this job (R)", "I can easily understand how my recipients feel about things (R)", Cronbach's alpha=.853).

4.2.4 Correlations Analysis

Pearson correlation coefficients were reported in Table 4-6. The results indicate that job satisfaction is not significantly correlated with OCB, but negatively correlated with burnout while OCB is moderately correlated with burnout. A further examination of the correlations of the subscales of job satisfaction, OCB and burnout revealed the following findings.

(1) Job Satisfaction and Burnout

Job satisfaction, intrinsic satisfaction, and extrinsic satisfaction have significant negative correlation ($P<0.01$) with burnout and its dimensions including emotional exhaustion, cynicism, and professional efficacy. This implies that doctors with a high level of job satisfaction might be less likely to experience burnout or only low level of burnout. Thus, hypothesis 1 that job satisfaction is negatively associated with burnout is supported.

(2) Job Satisfaction and OCB

Job satisfaction is only positively correlated with interpersonal harmony of OCB ($r=0.090$, $P<0.05$), while extrinsic satisfaction has positive correlation with altruism ($r=0.093$, $P<0.05$). Intrinsic satisfaction has no correlation with OCB and its five dimensions. These findings are not consistent with results of many existing researches (e.g. Organ & Konovsky, 1989). Nonetheless, there are still some scholars (e.g. Schappe, 1998; Moorman, 1991 & 1993) believing that job satisfaction is not correlated with OCB. For example, Williams & Anderson (1991) suggest that cognitive satisfaction is correlated with OCB while affective satisfaction is not. Thus, hypothesis 2 that job satisfaction is positively associated with OCB, is not supported by our findings.

(3) OCB and Burnout

OCB is negatively correlated with burnout ($r=-0.089$, $P<0.05$) as well as emotional exhaustion of burnout ($r=-0.188$, $P<0.01$). It is important to note that the correlation between OCB and emotional exhaustion is much more significant than OCB and burnout. Burnout has significant negative correlation with conscientiousness ($r=-0.121$, $P<0.01$). Emotional exhaustion is negatively correlated with OCB and its dimensions including altruism,

conscientiousness, and interpersonal harmony (P<0.01); professional efficacy and interpersonal harmony have evident negative correlation (r=0.163, P<0.01). Cynicism is not correlated with OCB and its dimensions. Professional efficacy has correlation with interpersonal harmony only. These findings indicate that doctors' OCB behavior might have an influence on their burnout levels. Thus, hypothesis 3 that OCB is negatively associated with burnout is supported.

Job satisfaction is positively correlated with intrinsic satisfaction (r=0.751, P<0.01) and extrinsic satisfaction (r=0.788, P<0.01); intrinsic satisfaction is positively correlated with extrinsic satisfaction (r=0.185, P<0.01); intrinsic satisfaction and extrinsic satisfaction have mutual association with each other.

OCB is positively correlated with altruism (r=0.730, P<0.01), conscientiousness (r=0.759, P<0.01), interpersonal harmony (r=0.734, P<0.01), identification with company (r=0.492, P<0.01), and protecting organizational resources (r=0.759, P<0.01). The correlation of different dimensions is also positive (P<0.01); OCB and its dimensions have positive association with each other.

As shown in Table 4-6, burnout is positively correlated with emotional exhaustion (r=0.709, P<0.01), cynicism (r=0.780, P<0.01), and professional efficacy (r=0.515, P<0.01). Each dimension is positively correlated with each other (P<0.01); burnout and all the dimensions have a positive correlation.

Table 4-6 Correlations (n=485)

	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1.Satisfaction												
2.Ex_satisfaction	,788**											
3.In_satisfaction	,751**	,185**										
4. OCB	,082	,068	,057									
5. Altruism	,087	,093*	,040	,730**								
6.Conscientiousness	,059	,084	,003	,759**	,629**							
7.Interpersonal harmony	,090*	,063	,077	,734**	,424**	,452**						
8.Identification	-,018	,002	-,031	,492**	,232**	,231**	,154**					
9. Protection	,050	,003	,078	,724**	,307**	,383**	,399**	,251**				
10. Burnout	-,493**	-,466**	-,287**	-,089*	-,074	-,121**	-,077	-,007	-,034			
11. exhaustion	-,381**	-,352**	-,231**	-,188**	-,139**	-,177**	-,247**	,016	-,080	,709**		
12. cynnicism	-,353**	-,325**	-,215**	-,041	-,050	-,063	-,021	,002	-,013	,780**	,331**	
13. Professional efficacy	-,252**	-,261**	-,123**	,080	,066	,018	,163**	-,042	,038	,515**	-,004	,201**

Source: The Author

4.2.5 ANOVA Analysis

The ANOVA analysis of differences across different demographic groups is reported in Appendix1-Table 7, Appendix1-Table 8, and Appendix1-Table 9. The analysis revealed the presence of statistically significant differences between the different groups of doctors.

(1) Job Satisfaction of Doctors with Different Characteristics

Doctors with different marriage statuses have different scores on extrinsic satisfaction ($P<0.05$), e.g. lower level of extrinsic satisfaction, for married subjects. Survey subjects with different years of working experience show significant differences on extrinsic satisfaction scores; the longer the tenure, the higher the score of extrinsic satisfaction. There is also difference on scores of overall satisfaction and extrinsic satisfaction among subjects with different educational levels. Subjects with a doctor degree have lower overall job satisfaction and extrinsic satisfaction. There are no significant differences on scores of overall job satisfaction, intrinsic satisfaction and extrinsic satisfaction for subjects with different genders, ages, hospitals, professional titles, incomes, and departments.

(2) OCB of Doctors with Different Characteristics

Significant difference is seen on scores of overall OCB, identification with company, altruism, and conscientiousness due to the differences among hospitals these doctors work for ($P<0.01$). Doctors in Shenzhen TCM Hospital have lower scores than those in the other hospitals. Doctors of different professional titles have different scores on identification with company ($P<0.05$); likewise, doctors with a higher level of profession title have a lower level of identification with their hospital. Scores of altruism and conscientiousness are different for doctors with different years of tenure ($P<0.05$): doctors with more years of tenure tend to be more willing to help colleagues and have better conscientiousness. There are gaps of interpersonal harmony scores among doctors in different departments ($P<0.05$): orthopedists and pediatricians tend to have less interpersonal harmony. The gap on scores of altruism is also noticeable for doctors with different income levels ($P<0.05$): doctors with lower income level have lower scores in altruism, meaning that they are less willing to help colleagues.

(3) Burnout of Doctors with Different Characteristics

Doctors with different years of tenure reported significant different scores on overall burnout and emotional exhaustion ($P<0.05$): doctors with less tenure have higher scores in these aspects, meaning they have a higher level of burnout and emotional exhaustion. Different professional titles reported score differences in overall burnout ($P<0.05$): doctors with lower level of professional title have higher scores, which means a higher level of burnout. The difference in marriage status also reported different scores of emotional

exhaustion (P<0.01): the married ones have higher scores, meaning that their level of burnout is higher. Different departments reported evident differences on scores of emotional exhaustion (P<0.01): pediatricians have relatively higher scores, i.e. higher levels of emotional exhaustion, while obstetricians and gynecologists report lower levels in this aspect.

4.2.6 Regression Analysis

A hierarchical regression analysis was conducted to investigate the relationship between job satisfaction, OCB and burnout. We centered the continuous predictors to facilitate the interpretation of the findings (see Aiken and West, 1991). We regressed burnout on gender, education, department, professional title and tenure as the control variables, job satisfaction, OCB and their interaction term. The control variables were entered in the first step, job satisfaction was entered in the second step, OCB in the third step and the interaction was entered in the last step. If the change in R^2 in step 4 is significant, we can conclude that the interaction is a unique predictor of job performance (Aiken and West, 1991; Kenny, 2015).

Table 4-7 presents the regression analyses on job performance. The main effects of job satisfaction on burnout were found. Support was also found for hypothesis 4: OCB moderated the link between job satisfaction and burnout. Specifically, the more OCB behaviors the doctors perform, the lesser is the magnitude of the job satisfaction influence in protecting doctors from burnout. Figure 4-1 depicts the significant interaction effect.

Table 4-7 Hierarchical Linear Modelling Results on Burnout

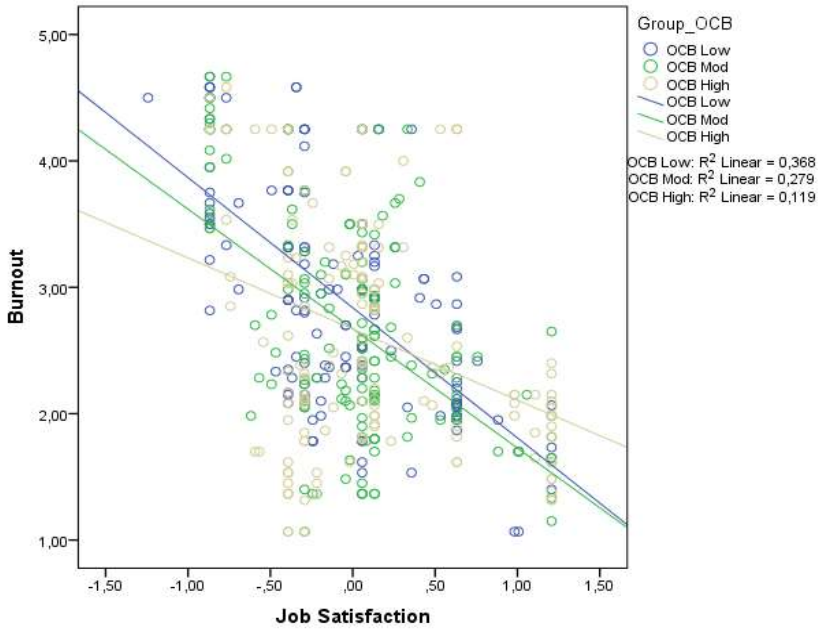
	Burnout			
	Model 1	Model 2	Model 3	Model 4
Controls				
Gender	-.02	-.00	-.01	.00
Title	-.05	-.21	-.20	-.31
Education	.09	.01	.01	.00
Job Function	.05	.03	.03	.03
Tenure	-.10	-.08	-.08	-.07
Independent variable				
Job Satisfaction		-.49***	-.48***	-.49***
Moderator				
Org. Citizenship Behavior			-.05	-.04
Interaction				
Job Satisfaction * OCB				.12**
R-square	.021	.205***	.253	..266*
Adjusted R-square	.011	.241	.242	.254
F-value	2.060	146.20	1.47	8.567
Change in R-square		.23	.002	.013

Note: N = 485.

$^{+}$ $p < .1$ * $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Source: The Author

Figure 4-1 Job Satisfaction and Burnout Relationship by OCB

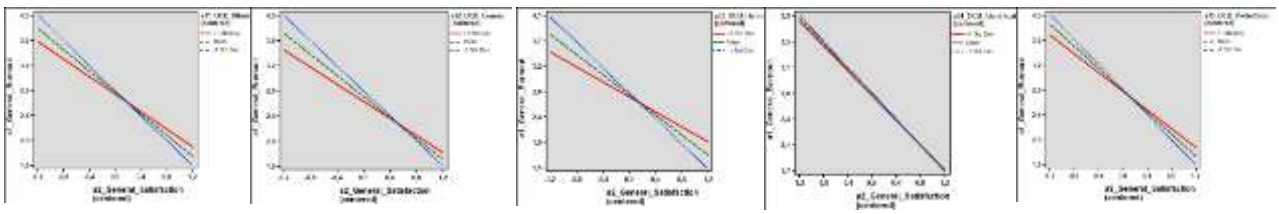


Source: The Author

A further examination of the five dimensions of OCB constructs using interaction software (version 1.7.2211) developed by Daniel Soper revealed that altruism, conscientiousness, and harmony also moderate the relationship between job satisfaction and burnout. The result is reported in Table 4-8. The figures in the Appendix 2 depict the significant interaction effects.

Table 4-8 Moderating effect of OCB variables

Predicting burnout - Moderator (interaction term)				
Altruism	Conscientiousness	Harmony	Identification	Protection
B: 0.21*;	B; 0.23**	B; 0.24**	B; 0.03	B; 0.13
SE: 0.08	SE: 0.09	SE: 0.07	SE: 0.10	SE: 0.07
t: 2.43*	t: 2.62**	t: 3.37**	t: 0.33	t: 1.76



Source: The Author

4.3 Qualitative Results on Doctors' Work Attitude

Based on data collected from interviews with doctors, insights on the quantitative results of "job satisfaction", "extra-role behavior" and "work fatigue and stress" are summarized and discussed in the following sections.

4.3.1 Profiles of Interviewed Doctors

Table 4-9 Basic Situation of Interviewed Doctors (n=26)

	Characteristics	**Number**		**Characteristics**	**Number**
Gender	Male	14	Work Experience	≤5 Years	6
	Female	12		6-10 Years	5
Age	≤35	9		11-15 Years	5
	36-45	7		16-20 Years	6
	≥46	10		≥21 Years	4
Education	Bachelor Degree Holders	10	Department	Department of Internal Medicine	6
	Master Degree Holders	10		Department of Surgery	6
	PhD Degree Holders	6		Department of Obstetrics and Gynecology	4
Title	Resident Doctor	6		Department of Pediatrics	3
	Attending Physician	7		Others	7
	Associate Chief Physician	8			
	Chief Physician	5			

Source: The Author

Profiles of the interviewed doctors are reported in Table 4-9. Among the 26 interviewed doctors, 14 (53.8%) are male, nine (34.6%) are under the age of 35, 10 (38.5%) have bachelor's degree, 13 (50%) have sub-senior or senior professional titles, and 15 (57.7%) have working experience of more than 10 years. As for the distribution of departments, six (23.1%) are in the internal medicine department, six (23.1%) are in the surgical department,

four (15.4%) are in the obstetrics and gynecology department, three (11.5%) are in the pediatrics department and the remaining seven (26.9%) are in other departments.

4.3.2 Factors Influencing Job Satisfaction, Identification with Hospital and Burnout

Fifteen of the interviewed doctors expressed low job satisfaction, poor hospital belonging, burnout and huge work stress. When asked why they had such feelings, 12 (75%) doctors mentioned low salary and poor benefits such as "low absolute salary", "inequitable distribution", "gap between different departments", "poor employee benefits", and "imbalance between income and risk". It indicates that material rewards are very important to doctors. Many doctors said.

The registration fee plus consultation fee for a patient is only twenty-plus Yuan (3-4 euros), which is far less than a barber shop's charge of fifty Yuan. The income is too low. We have to make disproportionately high contribution and take risks while getting too little payback. The distribution mechanism in the society and in hospitals is unequal. --Interviewee R3007.

I have been working in the hospital for five years, with a monthly income of less than 9,000. I feel no respect from patients, I often feel worried about mistakes, medical disputes and being scolded and beaten by patients. The consumption level in Shenzhen is high, but in fact, what most doctors need is a normal life, and we only want what we deserve. --Interviewee E2005.

Eleven (68.75%) interviewed doctors believed that the major influencing factor came from the job itself, such as heavy workload, poor medical environment, no autonomy, work stress, physical exhaustion, lack of challenge in work, no interest in work and unsuitability to work. Some of the "complaints" in the interview are.

We have more than 80 patients in the out-patient unit, and we still have to make ward rounds, write medical records, communicate with patients and write research papers. We feel very tired every day with low morale. Sometimes we feel that the patients are too annoying and do not even want to speak to them. The only thing we want to do after work is to sleep. -Interviewee B2002.

The work environment is very bad. There is a very popular saying in the medical

community that guard against fire, thieves and patients. We doctors now even have no guarantee of our personal safety, let alone the social status. Doctors now are very much tortured by medical disputes. - Interviewee Z6003.

Nine (56.25%) doctors mentioned such factors as hospital management policy, system and the hospital management personnel. Unreasonable and dehumanized management system, incapable decision-making, unclear prospects, poor leader-subject relationships, bureaucracy and nepotism are the common problems raised in the interview.

The hospital management is characterized by low decision-making capacity, unclear positioning of the hospital affairs, changeable policies, nepotism, unfairness, no communication with the staff and bureaucracy. --Interviewee Z3003.

Seven (43.75%) doctors mentioned that the career development opportunities are limited, such as lack of appreciation from leaders, no improvement of medical skills and capacity, inadequate research platform and few training opportunities.

In the professional field, there are also factional conflicts. If you are not the trusted followers of the leader, you will never be recognized. You have no training opportunities, no scientific research projects and no promotion. We feel very depressed. –Interviewee E5003.

Six (37.5%) doctors mentioned factors such as poor software and hardware work environment such as poor hospital infrastructure, weak department skill strength, difficulty to get along with colleagues, domineering department heads, and lack of team cooperation.

The hospital leaders are very domineering. They are extravagant in spending money. Profits are squandered in the wrong place. The equipment and clinical rooms have not been updated for years. New technology cannot be developed, and the salary and benefits are not satisfying. Therefore, the morale is extremely low, there is no teamwork among colleagues and everyone chooses to step back in the face of problems. -- Interviewee E6001.

Two (12.5%) doctors mentioned other personal reasons such as family discord.

The spouse often does not come home at night. Family members often quarrel with each other. Children are not obedient. The workload is heavy, and the pressure is huge. I myself feel bored about my life and work. --Interviewee R8001.

A summary of the interview findings is shown in Table 4-10 below:

Table 4-10 Summary of Interview Findings (n=16)

Category of Attribute Concept	**Reasons for Low Job Satisfaction, Weak Sense of Belonging to Hospital and Huge Work Stress**	**Frequency**	**Proportion (%)**
A. Hospital Salary and Benefits	Low absolute salary, influence on basic life, psychological imbalance A1 Unequal bonus distribution mechanism, low morale and huge gap between departments A2 Poor benefits A3 Too little income for too many risksA4	12	75.00
B. Job Characteristics	Heavy workload B1 Lack of challenge B2 Doctor-patient tension and poor medical environment B3 Lack of autonomy B4 Lack of interest in the work B5 Huge work pressure, fatigue and exhaustion B6	11	68.75
C. Hospital Management and Management System	Unreasonable and dehumanized management system C1 Limited management decision-making capacity, poor management, no development prospect and in-continuity of policies C2 Autocracy, bad attitude to subordinates, severe bureaucracy and nepotism C3	9	56.25
D. Career Development	No appreciation from leaders and no promising future D1 No improvement of skills and capacity, no opportunities to learn new things D2 Lack of scientific and research platform and no chances to get higher professional titles D3 Few chances to communicate with the outside world and few training opportunities D4	7	43.75
E. Software and Hardware of the Hospital	Poor infrastructure E1 Weak medical skill strength and no attention to the development of the subject E2 Difficulty to get along with colleagues E3 Stubborn and domineering department heads and lack of teamwork E4	6	37.50
F. Other Personal Reasons	Work-Life balance issues	2	12.5

Source: The Author

4.3.3 Reasons for Low Job Satisfaction of Doctors with High Education Background

The interviews with doctors of different educational attainments revealed that they have different levels of job satisfaction as follows.

First, the higher the education attainment is, the more eager they are to get a higher salary. However, such hope is hardly realized. Second, medicine is perceived to be a subject of experience therefore neither the hospital leadership nor patients pay special attention to or respect doctors on the basis of their higher academic qualifications. In addition hospitals do not give more promotion and training opportunities to doctors considering their higher academic qualifications. Third, doctors with higher academic qualifications have higher expectations and demands of hospital management decisions, working conditions and working achievements, which are hardly met. Fourth, this category of doctors are prone to think too high of themselves, while others are more likely to be part of a team and cooperate colleagues. Fifth, another complaint concerns the fact that the hospital does not give more trust or provide more autonomy to doctors with higher academic qualifications and, in turn, they are more likely to feel low social status, poor work atmosphere and work environment, which is in stark contrast with their perception. This may explain why job satisfaction is negatively correlated with education attainments: the higher the educational attainment is, the lower the job satisfaction is. One doctor said in the interview.

> *I have higher academic qualification and spend more time in theoretical study, but the salary is only two hundred Yuan more than that of undergraduates. Our clinical experience and practice are less than the undergraduates, so the leaders are more likely not to recognize us and give us few promotions or training opportunities". "Department colleagues think that our clinical experience is not as good as them, so they often repel us and we feel it difficult to get along with them. --Interviewee R7003.*

> *What's the use of higher education background? We did not start work until late in life, thus less clinical experience. Despite our academic qualifications, we are too proud to ask our colleagues for guidance, nor are they willing to teach us. This is in stark contrast to what we had expected. Lousy pay and now poor medical environment has resulted in our loss of interest. --Interviewee E3003.*

4.3.4 Reasons for Differences of Burnout across Different Doctors

As for the result of "the shorter the working experience is, the higher the score of burnout is", interviews with doctors with different lengths of service revealed that there are several reasons. If they have a short length of service, a relatively low position and salary, they feel that the risks are disproportionately high and that their expectations for more autonomy are not met. They also have to do extra paperwork and auxiliary work as junior doctors and, as a result, their workload is relatively heavy and the work pressure is massive. Being in a relatively low position, they have to directly communicate with patients and their families. Vicious conflicts between doctors and patients increase year after year, greatly diminishing work enthusiasm and interest. One doctor interviewed complained as follows.

The directors only give orders and leave all the tough job to us. We are responsible for admitting patients, writing medical records and communicating with patients. The patients and their family members find no one but us once there is a problem. We get only half of the directors' pay, yet our workload is so heavy. So we feel exhausted everyday. Nowadays as incidents of hurting doctors are very common, we are concerned that we may get hurt or killed someday –Interviewee R6005.

Overtime is very common. Sometimes we have to continue to work after taking a night shift. There is not enough time to sleep everyday. --Interviewee E3005.

This result is consistent with a report of the Chinese Medical Doctor Association (2014) "*Situation of Violent Incidents of Hurting Doctors in Hospitals"* in which it is found that "in 2008, 47.7% of hospitals had doctor injury incidents, while in 2012, this percentage rises to 63.7%", indicating that the harsh medical environment exerts a severe influence on the burnout of young doctors.

Those with long tenure mentioned the following reasons for their situation. First, they are in a relatively high position, and the salary and working conditions are satisfactory. Second, they feel adequate to fulfill their job and believe to have a promising future. Third, they have experienced the era when doctors were respected, so they believe that the poor medical environment is only temporary. Forth, having a long tenure, they believe that being a doctor is a profession in which they can obtain self-actualization. For example,

In the past, doctors were quite respected, and to be frank, I feel proud to be a doctor,

because it is a nice thing when you think that you help a lot of patients." "The salary is satisfactory, and to be a doctor is a very decent job because many friends and relatives ask you for help. --Interviewee B5003.

Chapter 5 will discuss these findings and present the conclusions.

Chapter 5: Discussions and Conclusion

5.1 Doctors' Job Satisfaction, OCB and Burnout

5.1.1 Job Satisfaction

This study shows that the surveyed doctors have a fairly low level of general job satisfaction, internal satisfaction and external satisfaction. The results indicate that a large proportion of the surveyed doctors feel dissatisfied with their current job. These findings were further confirmed by the interviews.

Before the new medical reform in China initiated in 2009, efforts to adjust the medical system have failed to reach the root cause of the problem, scratching merely the surface. Related policies steered off track in formulation and execution. The financial compensation mechanism for public health institutions, in particular, has gone further down the wrong path and it casts a veil over the technical skills of doctors as it emerged from interviewees R3007 and B5002. There is a discrepancy between contribution, income, and high occupational risks and the system has also given rise to unhealthy practices within the medical industry. Meanwhile, the reliance on drugs to earn a living has also resulted in excessive growth in medical costs and "difficult and expensive" medical assistance. This has severely compromised the interests of both doctors and patients, the two largest interest groups. Doctors have witnessed sharp decline in the respect from patients. As doctor-patient conflicts worsen doctors are deeply unsatisfied with the working conditions and environment. As one interview said:

> *"Government should be held responsible for the current conflict and confrontation between doctors and patients. The lack of government spending and the flawed health care system have inflicted patients with high costs. When our work return goes unfulfilled through normal channels, we resort to alternative means to seek gray income. And of course, the patients will vent their complaints upon us" --Interviewee R8001.*

As mentioned, this study has found that doctors working in the Chinese public hospitals of this study have a low level of general job satisfaction. There is much room for improvement as government and hospitals should place their emphasis both on intrinsic satisfaction, namely the job itself, and extrinsic satisfaction, including work environment, wages, organization and management..

Results revealed that doctors with different marital status vary in external satisfaction. Those who are married reported a lower level of external satisfaction than those who are not. In turn doctors with different education background differ in general satisfaction and external satisfaction. Namely, education background is negatively correlated with job satisfaction. The higher the education background, the lower the level of job satisfaction. Doctors with different working life share substantial differences in external satisfaction; for example those with longer working life score higher in external satisfaction. Meanwhile doctors with different gender, age groups, hospitals, titles, income levels and disciplines share no significant difference in general job satisfaction, internal satisfaction and external satisfaction..

In what concerns the results for married doctors, they shoulder the burden of both family and work and the two counteract with each other. The harsh medical environment in China puts an extra pressure on doctors. The fast pace of Shenzhen city life – one of the first special economic zones in China and one of the largest and fastest growing cities in the country - makes it nearly impossible for married doctors to receive comfort and support from family, which, when added up, leads to a low level of job satisfaction..

In turn, doctors with higher education background hope for higher pay. However, their request goes unanswered. They have higher demands for decision-making, working conditions and work assessments of the hospitals that they work for, but the results showed that the surveyed hospitals fail to show enough trust or grant them opportunities to conduct independent work or participate in decision-making. Compared with when they started out, doctors with higher education background enjoy a low social status, lousy working atmosphere and poor work environment, a far cry from their initial expectations. Meanwhile, doctors with longer working life take up comparatively higher positions that stand a better chance for promotion and salary increase. Given their longer working life and recognized work experience, they will also receive due respect from colleagues and patients alike. As a result, the narrower the gap between reality and expectations, the higher the level of job satisfaction..

In the interviews, a vast majority of interviewees expressed that seniority enjoys profound significance in China. When reaching certain heights, they will witness significant improvements in workload, remuneration, trust from leaders and participation in policy-making. This, in part, explains why the level of external satisfaction increases with a longer working life.

5.1.2 OCB

The results show that the doctors surveyed in Shenzhen's hospitals have a low level of OCB, suggesting that Chinese doctors are unwilling to improve organizational performance and safeguard the interests of the organization.

With the increasing development and improvement of the health care system, we have seen constant innovation in new medical technologies and improvement in doctors' qualifications. It takes highly professional knowledge and skills to engage in this occupation. Doctors have to cope with low work returns and high living expenses while bearing the heavy pressure from hospitals and patients. Confronted with the complex interpersonal environment in the hospital, they have lost their sense of belonging, thus are reluctant to work for the interests of the hospital. The interviewed doctors have vented their frustration at the lack of concern, welfare and support from their hospitals. According to the reciprocity principle, doctors would not actively help the organization achieve their goals for lack of a trade off. Therefore, they will refrain from assisting colleagues or fulfilling work responsibilities. Rather, they will waste or take advantage of hospital resources to strike psychological balance as a means of feedback to the inaction on the part of the organization. For example, one interviewed doctor said.

> *"The good and bad, make or break of a hospital depends, to a large extent, on the management and cultural environment of the given hospital. If it is encouraging, we will be more than willing instead of forced to do things." --Interviewee E6002.*

Government and hospitals should invest greater efforts into the building of organizational atmosphere and organizational culture, allowing doctors to actively participate in the reform, development and stability of the hospital. Meanwhile, the administration should increase communication opportunities with doctors, giving them a deeper understanding of the objectives, philosophies, operations, policies and measures of the hospital, in a bid to enhance their sense of identification and solidarity.

Doctors from the different hospitals surveyed share substantial differences in OCB, identification with organization, altruism and conscientiousness. Doctors with different titles vary in identification with organization where senior ones scored lower in this category. In other words, they have a low sense of identification with organization. Doctors with varied working life differ in altruism and professional dedication. Those with longer working life scored higher, expressing stronger willingness to assist colleagues and dedication to their job.

Doctors of different disciplines differ in interpersonal harmony where orthopedics and pediatrics performed poorly. Meanwhile doctors of different income levels vary in altruism where low-income ones scored lower, showing less willingness to assist colleagues.

Given that doctors in prominent positions have a wealth of corresponding experience, they are easily subject to fixated thinking modes, thus may be stiff to innovative awareness and likely to stage strong resistance to new policies, leading to fairly low level of identification with the organization. Doctors with longer working life have relatively higher job skills and richer life experience. Therefore, they are more confident and willing to help colleagues in times of crisis, be it work or life-related. With the increase of working life, they have a deeper understanding of the medical practice of life-saving, thus a higher sense of accomplishment and better conscientiousness. Shenzhen is a vibrant city with an ever-growing number of young people and new immigrants. Orthopedicians and pediatricians shoulder heavy workload. Meanwhile, the fast pace of Shenzhen and the lack of exchanges among colleagues seem to have resulted in poor interpersonal relationships. High-income doctors are more financially capable and confident to help colleagues in their times of difficulties, thus a stronger willingness to assist colleagues. In the interviews, a sizable proportion of interviewees mentioned that doctors with longer working life have comparatively higher job skills, richer life experience, and stronger confidence and willingness to help colleagues address work and life challenges They are also more likely to identify with doctors' mission to save lives. For instance one interviewee said:

> *Doctors were quite respected before. To be frank, I felt nothing but pride to be a doctor. Is it not beautiful to recount the number of patients that I have saved today? --Interviewee B5003.*

In addition to the differences found on OCB at individual level among the doctors, significant differences were reported at organizational level. Shenzhen TCM Hospital, which specializes in traditional Chinese medicine, scored significantly lower in OCB, compared to the other three hospitals that are specialized in western medicine. As Podsakoff et al. (2000) contend, the antecedents of OCB fall into four categories: individual (or employee) characteristics, task characteristics, organizational characteristics, and leadership behaviors. Given the nature of Shenzhen TCM Hospital as hospital of traditional Chinese medicine, doctor characteristics (traditional Chinese physician), organizational characteristics (traditional Chinese medicine hospital) and leadership behavior might be different from the other hospitals. The follow-up interviews revealed the characteristics of this hospital.

Traditional Chinese hospitals place extreme emphasis on seniority and this seems to do little to strengthen the bond among colleagues. In an interview, a doctor expressed his frustration..

It is not competency but seniority that earns the promotion. If you are not at a certain age or position, you will never receive that promotion, no matter how competent you are". –Interviewee Z3007.

"A little bit of extra concern from the leaders, improvement in the working conditions, increase in our annual income, or participation in group activities, would do. However, The actual situation is just the opposite. The leaders do not care about us, the work conditions have not been improved, the salary has not been raised for years, and group activities have not been held for many years – Interviewee Z6007.

5.1.3 Burnout

This study shows that the surveyed doctors have a moderate level of general burnout, and a high level of emotional exhaustion.

The flawed financial compensation mechanism of the government and the non-profit nature of the hospital have led doctors to lift their pay levels with increasing workload. They are under constant high pressure and as the professional nature of doctors concerns with human lives, their job comes with high risks especially when most patients, as it happens in China, have a biased understanding of medical knowledge. Doctors shoulder greater responsibilities to manage and look after patients, with little autonomy while their personal needs are met with misunderstandings from the society. The risks and compensations are unevenly matched and what they do is not properly reflected in the return received from employers and society. Therefore, doctors are prone to burnout and suffer from emotional exhaustion.

Doctors with different individual attributes vary in burnout and its dimensions; those with shorter working life reported a higher level of general burnout and emotional exhaustion and those with lower titles (job positions) reported a higher level of burnout. The unmarried doctors scored a higher level of emotional exhaustion and it was also found that those of different disciplines vary remarkably in the level of emotional exhaustion where pediatricians scored higher and gynecologists scored lower. Likewise, pediatricians have a higher level of emotional exhaustion, and obstetricians a lower level.

Doctors with lower titles have inferior positions, heavier workload and lower pay. The

remuneration package and the job risks are extremely mismatched, coupled with acts of violence against doctors that have seen annual increase. Senior doctors have lived through the times when doctors were respected, and believe that the harsh medical environment is only temporary. Compared with younger doctors, it was found in this research that they have a stronger identity with doctors' pursuit of self-value and fulfillment. The harsh medical environment has drained their confidence to achieve desired objectives. Unmarried doctors are mostly young with a shorter working life and they share the same reasons for high level of burnout. Given that they have no spouse to talk to, they are more easily emotionally exhausted. In addition, the one-child policy in China has led to higher expectations from parents on the treatment of sick children, which poses a tremendous pressure on pediatricians who are called to shoulder greater responsibilities than other disciplines and are often subject to medical disputes. Oppositely, as having children in China is indeed bliss, among all specialties, obstetricians are those who usually receive utmost respect and affection from mothers and families alike.

In the interviews, interviewees mentioned that doctors with shorter working life and lower titles have heavier workloads. The frequent acts of violence against doctors in China over the past few years and the harsh medical environment have resulted in a loss of confidence for young doctors to reach desired targets. This explains the burnout found in this research especially in doctors with lower titles and shorter working life who yearn for growing autonomy, but to no avail. They are burdened with heavy workload and work pressure, thus a lack of interest in their job. In addition, the harsh medical environment has imposed a severe impact on the level of burnout among young doctors. For example, some doctors complained that they have to examine patients (over 80 per day), check bed-ridden ones, record medical history, and talk to patients while juggling with papers and scientific research.

5.2 Relationships among Job Satisfaction, OCB and Burnout

According to the survey results, job satisfaction is significantly negatively correlated with burnout, and job satisfaction has a negative predictive effect on burnout. According to the Expectancy Theory by Vroom, the work that doctors do and the realization of organizational goals will help them achieve their own objectives and meet their own needs.

The results show that OCB is negatively correlated with burnout. In turn, a higher level of OCB among doctors is conducive to the reduction in burnout. Zhang Feng (2010) believes

that organizational justice has a positive impact on OCB. According to Adams' equity theory, the effort, job performance and job satisfaction will determine the degree of justice employees feel in a given work environment, which will cast a direct impact on his future work. If employees receive fair and reasonable allocation from the organization, they will give back to the organization with a positive mindset. However, if there is no fairness within an organization, employees will take on a passive role, that is conducive to burnout.

In the interviews, we found that if doctors fail to receive due support from their hospitals, they will lose the sense of belonging to the hospital, leading to lower job performance and higher burnout. The administration should build a team-oriented culture, initiate the psychological mechanism of cultural incentives, improve the management of incentive plans, encourage doctors' loyalty to hospitals, improve the level of OCB, lower the level of burnout, achieve win-win results for both doctors and hospitals, and boost their morale for work.

According to the survey results, job satisfaction shares no substantial correlation with OCB or its dimensions, that is, job satisfaction exerts no substantial impact on OCB. We believe that the frequent incidents of killing and hurting doctors in China have put them under enormous psychological pressure. This coupled with the lack of organizational support from government and hospitals have resulted in severely deformed job satisfaction and OCB. Therefore, their mutual influence fails to manifest properly. We have witnessed incessant media reports about acts of violence against doctors (including killings) over the past two years, including 155 cases in 2014 and 40 ones between January and July in 2015. The Lancet (2014) published successive articles in 2012-2014, calling for an end to violence against doctors in China.

As anywhere in the world, doctors should be able to provide medical services with utmost dignity. However, the unhealthy medical environment in China has severely compromised their behaviors. According to Maslow's (1954) theory of hierarchy of needs, human needs fall into five hierarchical categories, namely physiological, security, social, esteem and self-realization, which evolve from bottom to top. Only after the lower level of needs are met will the next level of needs become the dominant force. As long as the security needs of doctors go unfulfilled, the other needs will never be the dominant force.

5.3 OCB's moderating Effect between Job Satisfaction and Burnout

The survey results show that OCB, altruism, conscientiousness and interpersonal

harmony moderate the link between job satisfaction and burnout. When the OCB was low, the explained variance was 37% while when the OCB was high, the explained variance was 12%. This suggests that OCB affects the magnitude of the influence of job satisfaction on burnout.

The surveyed doctors held the view that a harmonious and pleasant work environment, a vigorous and dynamic teamwork, and a healthy and desirable interpersonal relationship are critical for doctors to vent their emotions and enhance their capability to withstand pressure. Given the inviting interpersonal atmosphere, doctors, in the face of challenges, will communicate with each other, share experiences, come up with new ideas, all factors that, in turn will reduce burnout.

The results suggest that identification with organization and protecting company resources play no moderating role between job satisfaction and burnout. The poor medical environment and the lack of organizational support from both government and hospitals have resulted in doctors' weak identification with hospitals they work for and motivation to protect organizational resources. According to the "reciprocity" principle in Homans' (1958) social exchange theory, when employees feel the care and support from their organizations, they will repay by delivering better job performance or safeguarding the interests of the organization. In the case of the surveyed doctors who do not perceive to receive organizational support, they may stage retaliatory actions and wrong utilization of hospital resources to seek psychological balance.

5.4 Conclusion

This is an empirical research on doctors working for four public hospitals in the Chinese bustling city of Shenzhen bordering Hong Kong, one of the largest cities in China with a population of 10 million. The study has reached the following conclusions.

First, in the hospitals surveyed, doctors' job satisfaction is negatively correlated with burnout and was found to be a valid predictor of burnout. Second, in those hospitals, OCB is negatively correlated with burnout, but not a valid predictor of burnout. Third, OCB moderates the relationship between job satisfaction and burnout, that is, the more the OCB and its altruism, interpersonal harmony, conscientiousness, the lesser the magnitude of the job satisfaction influence on burnout. These findings contribute to enrich the literature with results from a sample of doctors working for four public hospitals in Shenzhen, China.

Chapter 6: Implications for Policy and Prospects

This study was designed to give a contribution to improve job satisfaction of doctors in Chinese hospitals by studying the dimensions of OCB and burnout in a selected sample of the four largest public hospitals in Shenzhen. The study may help to identify ways to enhance their level of individual job satisfaction and OCB, reduce burnout, boost doctors' morale and enhance their well-being. Many of these ways require the intervention of such stakeholders as the government, the society, the hospitals and doctors themselves. Based on this study, some recommendations and suggestions are put forward as follows.

6.1 Practical Implications

6.1.1Macro-level Implications for Government

(1) The medical practicing environment needs to be optimized to safeguard the dignity of doctors and reduce their risks.

It is imperative to improve the existing mechanism for disposal of medical disputes, establish a neutral, fair and convenient third-party mediation mechanism (When medical disputes happen, the disputed two parties, under coordination, help and facilitation of a third party, negotiate with each other to reach a consensus, resolve disputes, sign reconciliation agreement and establish new relationship of rights and obligations. There are no conflicts of interests between the disputed two parties and the third party.), guide doctors and patients to respect each other and tolerate each other, and alleviate the increasingly tense situation of doctor-patient conflicts.

Legislation involving medical affairs should be strengthened. Particularly doctors' practicing security issues should be seriously considered when enacting laws and regulations so as to safeguard the legitimate rights and interests and personal safety of doctors. The government should crack down on the "medical dispute profiteering" that interferes with the normal working order of the medical institution and doctors as well as encroaches on the physical and mental health of the medical staff. In addition, a medical practicing liability insurance system should be established to socialize the occupational risks of doctors.

(2) The government should scientifically evaluate the value of medical professional services and raise the overall salary standard of doctors.

It is imperative to compensate for the professional services of the hospital and doctors, improve the public hospital compensation mechanism, allow doctors to receive reasonable

compensation for their work, safeguard their professional dignity, so as to enhance their enthusiasm.

(3) The government should play a leading role to reduce the medical burden of citizens.

Government investment on public hospitals should be increased. Fiscal funding policies should be implemented and the government's responsibility to fund public hospitals should be fully fulfilled. The basic medical insurance billing index system should be constantly improved. The medical insurance billing incentive and restraint mechanisms should be maximized to reduce the medical burden of citizens.

6.1.2 Meso-level Implications for Society

(1) Public welfare organizations are recommended to carry out health education to help spread the functions of medical practice to the general public.

It is necessary to enrich the general public's knowledge on medical treatment and health so that they understand the limitations and risks of the medical science and bear a scientific and reasonable expectation of medical results. This will help reduce the cognitive differences between doctors and patients caused by information asymmetry, promote mutual trust and facilitate communication between doctors and patients. The media should report incidents of medical disputes in an objective and impartial manner, and reduce misinterpretation or exaggeration. This will help to build a harmonious public opinion environment and reverse social prejudice.

(2) It is necessary to improve multi-level medical security system and reduce the workload of doctors in 3A hospitals. It is necessary to establish community family doctor service system, community first-diagnosis system and two-way referral system so as to reasonably manage the flow of patients, reduce workload of doctors in 3A hospitals, alleviate their stress, improve treatment quality and reduce the risk of medical disputes.

(3) It is necessary to strengthen the construction of medical societies and associations to protect various rights of doctors. Medical groups should play a role in enacting laws and regulations concerning the medical industry, resolving disputes and establishing liability insurance. The medical groups should proactively promote themselves in their respective fields with their professional expertise and influence and emphasize the social importance of the medical and health work so that doctors can realize the tremendous value of their work.

6.1.3 Micro-level Implications for Hospitals

(1) The hospital should pay attention to person-job match and job autonomy, strengthen department cooperation mechanisms, and cultivate a harmonious organizational atmosphere. When determining the position of the medical staff, the hospital should not only focus on

their professional skills, but also pay attention to their personality so as to enable individuals to work in a job and environment that fit them the best. Under the guidance of relevant rules and norms, doctors should be given autonomy with little interference of external non-technical factors so as to maintain their professional status. It is necessary to establish and improve mechanisms for coordination and cooperation among various departments, establish harmonious interpersonal relationships within the hospital, improve the service quality of relevant departments and boost enthusiasm and morale of grass-roots clinicians.

(2) The hospital performance appraisal and compensation systems should be improved to ensure fairness and equity. While hospitals endeavor to raise the income of doctors, the hospital performance appraisal and salary distribution mechanism should also be improved. In the development of distribution procedures or standards, the hospital should encourage and support employees to participate in the decision-making process. The hospital should strike a balance in the interests of all the employees, identify a unified distribution standard and procedure and make sure that the procedure and result of distribution are objective and equitable.

(3) The hospital should raise the overall salary standard. The work of the medical staff should be acknowledged by a reasonable compensation for their expertise. The salary should be raised moderately and the front-line staff and talented staff should get the priority. This indicates a principle of more pay for more and better work, which can also arouse the professional dignity of the medical staff and enhance their enthusiasm for work.

(4) The hospital should establish its vision and culture to promote doctors' OCB behaviors. Doctors are encouraged to actively participate in the hospital affairs. The virtuous communication between the hospital and the medical staff will help establish the hospital vision and enhance spiritual incentive to doctors. The hospital should establish its core culture and values, nurture the OCB of its employees and improve their sense of belonging.

(5) The hospital should establish the people-oriented policy and pay attention to doctors' career development. According to Alderfer's (1969) ERG theory, a person can work for growth needs when the existence and relatedness needs are not met, and the three needs can work on a person simultaneously. As knowledge workers, doctors have a strong demand for career development (Gao, 2001). The hospital should pay attention to the personal development of doctors, provide them with targeted training or learning opportunities, enrich their knowledge, improve their medical skills and achieve common development of individuals and hospitals. It is also important to cultivate doctors' management skills and broaden their career paths.

(6) The hospital should proactively carry out mental health education and training for doctors so as to help them release stress from work. Due to the special nature of this occupation, doctors are under excessive stress for a long period of time, severely affecting their physical and mental health. The hospital should pay special attention to the mental health of doctors and help them to master methods of self-regulation through regular psychological training. The hospital should help doctors deal with all types of medical disputes and emergencies, providing doctors with appropriate emotional supports and making sure that their negative emotions and psychological pressure can be promptly dispelled so as to avert occurrence of psychological problems and mental health problems and improve the mental health of doctors as a whole.

6.1.4 Implications for Doctors

Doctors are recommended to develop self-regulation as well as emotional management skills to cope with negative emotions at the workplace. Doctors should also proactively seek support from various social resources, rationally arrange work and family affairs and cultivate interests and hobbies to ease stress from work. Moreover, doctors should perform OCB behaviors, particularly altruism toward colleagues and patients, interpersonal harmony and conscientiousness.

6.2 Limitations and Suggestions for Future Research

Though this study generates satisfactory results in explaining the relationships among job satisfaction, OCB and burnout, there are several limitations that need to be acknowledged. First, the sample is limited only to four public hospitals in Shenzhen, one of the most developed cities in China. This hinders the generalizability of the findings. Second, because of the cross-sectional data, this study is affected by the likely influence of response bias and it is not possible to draw conclusions about precise causal relationships of determinants of burnout.

Due to the above limitations, following recommendation may advance future study. First, further research may consider more representative samples from other cities and regions in China. Second, carefully designed longitudinal research should be encouraged to investigate the causal relationships between the determinants and burnout among doctors in China in the future. Last, as the study revealed a significant difference on OCB in different categories of doctors, future research may proceed to explore the organizational factors influencing doctors' Organizational Citizenship Behavior.

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Appendix 1 Research Statistical Results Tables

Attached Table 1 Job Satisfaction Communalities

Component	Initial	Extraction
js13_e	1.000	.649
js14_e	1.000	.858
js12_e	1.000	.707
js19_e	1.000	.642
js8_i	1.000	.657
js18	1.000	.599
js17	1.000	.767
js10_i	1.000	.543
js11_i	1.000	.447

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 2 Job Satisfaction Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.348	37.198	37.198	3.348	37.198	37.198	2.940	32.665	32.665
2	2.521	28.013	65.211	2.521	28.013	65.211	2.929	32.546	65.211
3	.941	10.458	75.669						
4	.731	8.117	83.786						
5	.496	5.512	89.298						
6	.431	4.786	94.085						
7	.234	2.597	96.681						
8	.174	1.929	98.610						
9	.125	1.390	100.000						

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 3 OCB Communalities

Component	Initial	Extraction
OCB1_ Identification with company	1.000	.670
OCB 2_ Identification with company	1.000	.625
OCB 3_ Identification with company	1.000	.715
OCB 4_ Identification with company	1.000	.733
OCB 5_ Altruism	1.000	.831
OCB 6_ Altruism	1.000	.761
OCB 8_ Altruism	1.000	.884
OCB 10_r_ Interpersonal harmony	1.000	.687
OCB 11_r_ Interpersonal harmony	1.000	.756
OCB 12_r_ Interpersonal harmony	1.000	.751
OCB 13_r_ Protection	1.000	.880
OCB 14_r_ Protection	1.000	.579
OCB 17_ Conscientiousness	1.000	.709
OCB 18_ Conscientiousness	1.000	.814
OCB 19_ Conscientiousness	1.000	.614
OCB 20_ Conscientiousness	1.000	.778

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 4 OCB Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.655	35.346	35.346	5.655	35.346	35.346	2.987	18.670	18.670
2	2.075	12.968	48.314	2.075	12.968	48.314	2.381	14.881	33.551
3	1.736	10.850	59.164	1.736	10.850	59.164	2.378	14.861	48.412
4	1.333	8.333	67.497	1.333	8.333	67.497	2.318	14.489	62.901
5	.985	6.156	73.653	.985	6.156	73.653	1.720	10.752	73.653
6	.788	4.922	78.576						
7	.668	4.172	82.748						
8	.546	3.409	86.157						
9	.481	3.009	89.166						
10	.446	2.787	91.954						
11	.332	2.073	94.027						
12	.277	1.730	95.757						
13	.231	1.442	97.198						
14	.197	1.233	98.431						
15	.147	.917	99.347						
16	.104	.653	100.000						

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 5 Burnout Communalities

Component	Initial	Extraction
bt1	1.000	.569
bt2	1.000	.719
bt3	1.000	.747
bt4	1.000	.811
bt5	1.000	.801
bt6	1.000	.744
bt7	1.000	.750
bt8	1.000	.688
bt9	1.000	.676
bt12_r	1.000	.463
bt13_r	1.000	.734
bt14_r	1.000	.891
bt15_r	1.000	.832

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 6 Burnout Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.336	33.357	33.357	4.336	33.357	33.357	3.545	27.268	27.268
2	3.111	23.934	57.291	3.111	23.934	57.291	2.985	22.960	50.229
3	1.976	15.200	72.490	1.976	15.200	72.490	2.894	22.262	72.490
4	.787	6.050	78.540						
5	.742	5.709	84.250						
6	.530	4.080	88.330						
7	.441	3.390	91.720						
8	.291	2.242	93.962						
9	.230	1.772	95.733						
10	.180	1.384	97.117						
11	.152	1.170	98.287						
12	.124	.950	99.237						
13	.099	.763	100.000						

Extraction Method: Principal Component Analysis.

Source: The Author

Attached Table 7 Analysis of Job Satisfaction of Doctors with Different Characteristics

Characteristic variable	n	Overall Satisfaction	Intrinsic Satisfaction	Extrinsic Satisfaction
Gender				
Male	209	24.1±4.9	15.4±3.6	8.6±2.5
Female	276	24.9±4.6	16.1±3.4	8.7±2.7
P		0.069	0.031	0.681
Age				
≤35 years old	112	24.6±4.5	15.8±3.3	8.6±2.5
36-45 years old	258	24.5±4.6	15.8±3.4	8.7±2.7
≥46 years old	115	24.5±4.7	15.7±3.3	8.6±2.7
P		0.864	0.814	0.988
Employer				
Peking University Shenzhen Hospital	112	24.8±4.9	16.0±3.5	8.8±2.7
Shenzhen Second People's Hospital	140	24.5±4.5	15.9±3.3	8.6±2.5
Shenzhen People's Hospital	144	24.5±5.0	15.8±3.8	8.7±2.7
Shenzhen TCM Hospital	89	24.3±4.7	15.7±3.3	8.6±2.7
P		0.915	0.923	0.952
Marital Status				
Married	319	24.3±4.7	15.8±3.6	8.5±2.6
Single	80	24.9±4.9	15.9±3.4	9.0±2.4
Others (Divorced, Widowed etc.)	86	25.0±4.8	15.8±3.6	9.2±2.6
P		0.407	0.987	0.04

Title				
Resident Doctor	62	23.6±5.1	15.2±3.9	8.5±2.4
Attending Physician	93	24.7±4.2	16.0±3.0	8.7±2.4
Associate Chief Physician	232	24.6±4.6	15.9±3.4	8.7±2.6
Chief Physician	98	24.7±5.3	15.9±4.0	8.8±2.9
P		0.498	0.501	0.888
Length of Service				
1 Year	101	24.2±4.6	15.6±3.3	8.6±2.3
2 Years	68	23.8±4.8	15.4±3.7	8.4±2.5
3 Years	57	25.4±5.3	15.8±3.4	9.6±2.9
4 Years	176	24.2±4.6	15.8±3.7	8.4±2.5
5 Years	83	25.4±4.8	16.5±3.2	8.9±3.1
P		0.116	0.300	0.046
Education Attainment				
Bachelor Degree Holders	164	25.1±4.7	16.2±3.3	8.8±2.7
Master Degree Holders	225	24.6±5.1	15.7±3.8	8.9±2.7
PhD Degree Holders	96	23.3±3.9	15.4±3.1	7.9±2.2
P		0.013	0.131	0.007
Department				
Department of Pediatrics	44	24.8±4.4	15.8±3.0	8.9±2.4
Department of Obstetrics and Gynecology	65	24.6±4.8	16.0±3.8	8.7±2.7

Department of Orthopedics	55	24.8±5.7	15.7±3.7	9.1±3.1
Emergency Department	27	24.2±3.5	16.1±3.3	8.1±1.9
Department of Anesthesiology	43	24.7±5.3	15.3±3.5	9.3±2.8
Department of Internal Medicine	78	23.4±4.1	15.3±3.4	8.1±2.0
Department of Surgery	83	24.6±4.9	15.9±3.5	8.8±2.5
Others	90	25.0±4.8	16.5±3.5	8.6±3.0
P		0.530	0.527	0.180
Monthly Income (Unit: Yuan)				
≦5000	3	25.0±1.7	19.3±2.9	5.7±1.2
5001-10000	208	24.5±4.8	15.7±3.4	8.7±2.6
10001-15000	190	24.7±4.6	16.1±3.6	8.6±2.6
15001-20000	84	24.2±5.1	15.4±3.6	8.8±2.7
P		0.894	0.162	0.226

(Notes: comparison between different gender groups is tested with t, whereas variance analysis is used for comparison between multiple groups)

Source: The Author

Attached Table 8 Analysis of Organizational Citizenship Behavior of Doctors with Different Characteristics

	n	Total Marks	Identification with company	Altruism	Interpersonal Harmony	Protect Organizational Resources	Conscientiousness
Gender							
Male	209	60.1±7.8	13.3±2.5	12.0±2.1	8.0±1.7	11.8±2.8	15.0±2.5
Female	276	58.3±8.6	13.0±2.5	11.6±2.2	8.0±1.8	11.2±2.9	14.5±2.8
P		0.019	0.116	0.067	0.954	0.031	0.032
Age							
≤35 Years Old	112	60.1±8.2	13.4±2.2	12.1±2.2	7.8±2.0	11.5±2.3	15.0±2.3
36-45 Years Old	258	60.6±7.3	13.2±2.3	12.0±2.1	7.8±1.9	11.8±2.4	14.9±2.7
≥46 Years Old	115	60.6±8.1	12.7±2.3	11.9±2.2	8.1±1.8	12.0±2.3	15.3±2.5
P		0.774	0.050	0.415	0.649	0.204	0.357
Employer							
Peking University Shenzhen Hospital	112	61.1±9.2	14.4±2.3	11.9±2.2	8.1±1.8	11.7±2.7	15.1±2.9
Shenzhen Second People's Hospital	140	57.6±7.3	11.9±2.4	11.8±2.2	8.1±1.8	11.2±3.1	14.6±2.5
Shenzhen People's Hospital	144	60.1±8.8	13.5±2.1	11.9±2.2	8.0±1.8	11.6±2.9	15.0±2.9
Shenzhen TCM Hospital	89	57.0±7.0	12.9±2.5	11.0±1.8	7.9±1.7	11.4±2.7	14.0±2.5
P		0.000	0.000	0.005	0.917	0.389	0.011
Marital Status							
Married	319	58.9±8.3	13.1±2.5	11.7±2.2	8.0±1.7	11.5±2.8	14.7±2.7
Single	80	58.6±7.1	13.4±2.2	11.4±1.9	8.0±1.7	11.1±3.0	14.7±2.4

Others	86	60.1±9.2	13.1±2.7	12.2±2.2	8.2±1.9	11.7±2.8	14.9±2.9
P		0.428	0.683	0.051	0.535	0.221	0.791
Title							
Resident Doctor	62	58.5±6.9	13.4±2.3	11.3±2.0	8.0±1.8	11.3±2.6	14.4±2.6
Attending Physician	93	59.0±7.9	13.7±2.2	11.7±1.9	7.8±1.7	11.2±3.0	14.8±2.3
Associate Chief Physician	232	59.1±8.6	13.1±2.6	11.8±2.3	8.0±1.8	11.5±2.9	14.7±2.8
Chief Physician	98	59.3±8.7	12.5±2.6	11.9±2.2	8.2±1.8	11.7±2.8	15.0±2.9
P		0.943	0.010	0.353	0.382	0.602	0.603
Length of Service							
1 Year	101	58.5±7.1	13.3±2.3	11.4±1.9	8.0±1.8	11.1±2.7	14.7±2.4
2 Years	68	60.2±8.9	13.7±2.1	11.9±2.2	7.9±1.8	12.0±2.8	14.7±2.9
3 Years	57	57.8±8.1	13.2±2.5	11.2±2.2	8.1±1.8	11.2±2.7	14.2±2.7
4 Years	176	58.8±8.7	13.0±2.6	111.8±2.3	7.9±1.8	11.6±2.7	14.4±2.9
5 Years	83	60.3±8.3	12.7±2.7	12.2±2.2	8.3±1.5	11.3±3.4	15.8±2.1
P		0.291	0.180	0.044	0.605	0.203	0.001
Education Attainment							
Bachelor Degree Holders	164	58.7±7.6	13.0±2.4	11.7±2.1	8.0±1.8	11.1±3.1	14.9±2.5
Master Degree Holders	225	59.2±8.8	13.2±2.5	11.8±2.3	8.1±1.9	11.6±2.7	14.5±2.9
PhD Degree Holders	96	59.4±8.3	13.4±2.4	11.7±2.2	7.7±1.6	11.7±2.9	14.9±2.5
P		0.748	0.497	0.922	0.153	0.176	0.370

Department							
Department of Pediatrics	44	58.8±7.9	13.2±2.3	11.6±2.0	7.7±1.9	11.0±3.0	15.2±2.3
Department of Obstetrics and Gynecology	65	58.0±9.6	12.9±2.7	11.7±2.3	8.2±2.0	11.3±2.8	13.8±3.3
Department of Orthopedics	55	59.5±7.2	13.5±2.3	11.8±1.8	7.6±1.5	11.6±2.6	14.9±2.3
Emergency Department	27	59.0±9.8	12.0±2.7	12.0±2.6	7.8±1.9	12.2±3.4	14.9±3.2
Department of Anesthesiology	43	60.1±7.7	13.7±2.5	11.4±2.4	8.5±1.6	11.9±2.9	14.6±2.3
Department of Internal Medicine	78	57.8±8.8	13.3±2.3	11.5±2.0	7.7±1.9	11.2±2.4	14.2±3.0
Department of Surgery	83	58.8±8.0	13.2±2.6	11.7±2.3	8.1±1.6	11.1±3.2	15.0±2.5
Others	90	60.6±7.6	12.9±2.4	12.1±2.1	8.3±1.6	11.8±2.9	15.1±2.3
P		0.448	0.135	0.646	0.034	0.351	0.032
Monthly Income (Unit: Yuan)							
≦5000	3	48.7±9.3	12.0±2.6	8.3±0.6	6.3±2.3	9.3±1.5	12.7±4.0
5001-10000	208	58.8±7.9	13.1±2.3	11.5±2.1	7.9±1.7	11.2±2.9	14.9±2.5
10001-15000	190	59.2±8.9	13.1±2.7	11.8±2.3	8.2±1.9	11.7±2.9	14.4±2.9
15001-20000	84	59.7±7.5	13.5±2.3	11.9±1.9	7.8±1.6	11.4±2.8	15.0±2.4
P		0.137	0.419	0.028	0.074	0.301	0.094

Source: The Author

Attached Table 9 Analysis of Burnout of Doctors with Different Characteristics

	n	Total Marks	Emotional Exhaustion	Cynicism	Reduced Professional Efficacy
Gender					
Male	209	33.8±10.7	17.3±5.7	10.1±5.5	6.4±4.6
Female	276	32.3±10.3	15.8±5.8	10.7±5.6	5.9±4.2
P (t test)		0.137	0.005	0.238	0.184
Age					
≤35 Years Old	112	33.6±8.8	16.9±6.0	10.2±5.6	6.3±4.1
36-45 Years Old	258	33. 5±10.0	17.0±5.4	10.3±5.5	6.1±4.2
≥46 Years Old	115	33.8±8.6	16.8±5.9	10.8±5.5	6.1±4.3
P		0.352	0.353	0.624	0.731
Employer					
Peking University Shenzhen Hospital	112	33.5±10.5	16.2±5.8	11.0±5.3	6.3±4.5
Shenzhen Second People's Hospital	140	32.2±10.2	16.6±5.7	10.0±5.6	5.7±4.3
Shenzhen People’s Hospital	144	32.7±10.3	16.4±5.9	10.0±5.8	6.3±4.4
Shenzhen TCM Hospital	89	33.8±11.3	16.5±5.9	10.9±5.3	6.3±4.4
P (variance analysis)		0.688	0.970	0.328	0.645
Marital Status					
Married	319	33.0±10.5	16.4±5.8	10.7±5.6	5.9±4.4

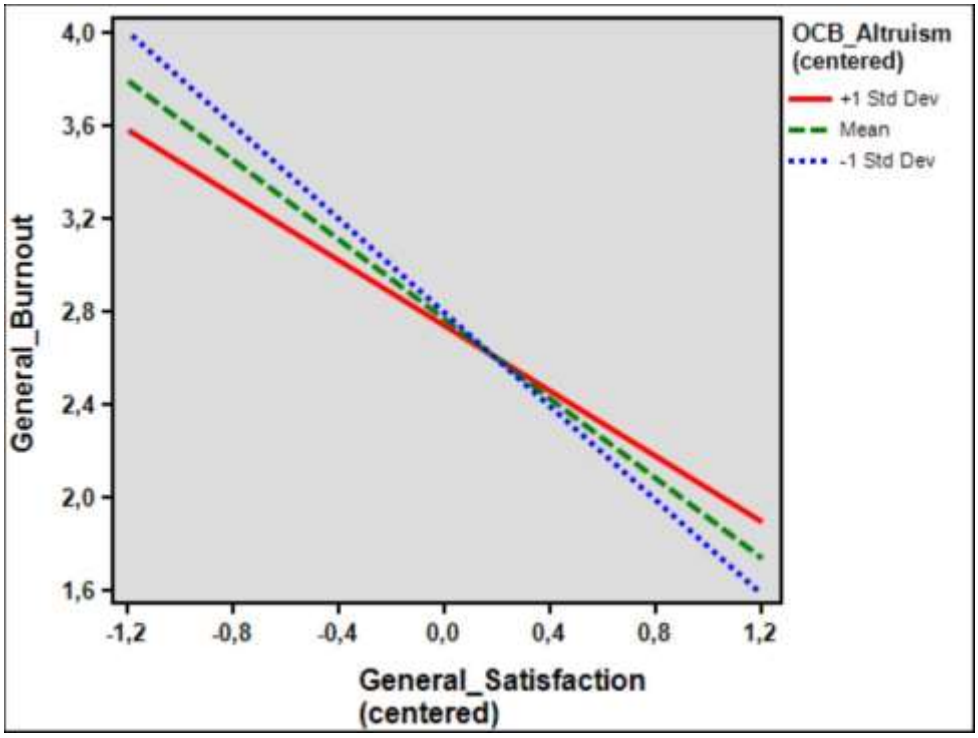
Single	80	34.2±10.2	17.9±5.7	9.9±5.5	6.5±4.5
Others (Divorced, Widowed etc.)	86	31.5±10.8	15.0±5.6	10.0±5.4	6.6±4.2
P		0.262	0.006	0.366	0.405
Title					
Resident Doctor	62	36.5±10.9	17.6±5.8	11.3±5.8	7.6±4.5
Attending Physician	93	32.3±9.7	17.3±5.4	9.5±5.5	5.5±4.5
Associate Chief Physician	232	32.7±10.3	16.0±5.9	10.6±5.6	6.1±4.4
Chief Physician	98	31.9±11.2	15.8±5.8	10.2±5.5	5.9±4.2
P		0.035	0.069	0.233	0.028
Length of Service					
1 Year	101	35.1±10.1	18.0±5.5	10.6±5.7	6.5±4.6
2 Years	68	33.9±11.7	17.0±6.4	10.9±5.8	6.0±4.5
3 Years	57	29.6±9.9	14.8±5.5	9.1±5.2	5.7±4.3
4 Years	176	33.7±10.0	16.7±5.7	10.8±5.6	6.3±4.3
5 Years	83	30.0±10.5	14.5±5.3	9.9±5.4	5.7±4.5
P		0.001	0.000	0.287	0.632
Education Attainment					
Bachelor Degree Holders	164	32.9±10.8	16.3±5.9	10.5±5.6	6.2±4.4
Master Degree Holders	225	32.4±10.7	16.3±5.7	10.0±5.4	6.1±4.3

PhD Degree Holders	96	34.3±9.5	17.1±5.9	11.2±5.8	6.0±4.8
P		0.319	0.464	0.202	0.964
Department					
Department of Pediatrics	44	35.8±10.2	19.3±5.2	10.8±5.8	5.7±4.3
Department of Obstetrics and Gynecology	65	30.9±11.1	15.2±5.7	10.3±5.4	5.4±4.2
Department of Orthopedics	55	32.5±10.9	17.0±5.9	10.9±5.6	4.6±4.6
Emergency Department	27	34.1±6.6	16.4±6.7	10.4±5.2	7.3±4.3
Department of Anesthesiology	43	32.5±11.7	15.8±5.8	10.3±5.9	6.4±4.6
Department of Internal Medicine	78	34.4±10.3	16.4±6.1	11.0±5.6	7.0±4.4
Department of Surgery	83	30.9±10.5	15.1±5.3	10.0±5.4	5.9±4.4
Others	90	33.8±10.2	17.0±5.4	9.9±5.7	6.8±4.2
P		0.124	0.005	0.919	0.020
Monthly Income					
≦5000	3	29.0±8.0	20.0±2.6	5.0±1.7	4.0±6.9
5001-10000	208	32.5±10.4	16.5±5.5	10.0±5.4	6.0±4.3
10001-15000	190	33.2±10.0	16.2±5.9	10.7±5.6	6.3±4.4
15001-20000	84	33.5±12.0	16.5±6.3	10.9±5.8	6.1±4.4
P		0.764	0.681	0.173	0.764

Source: The Author

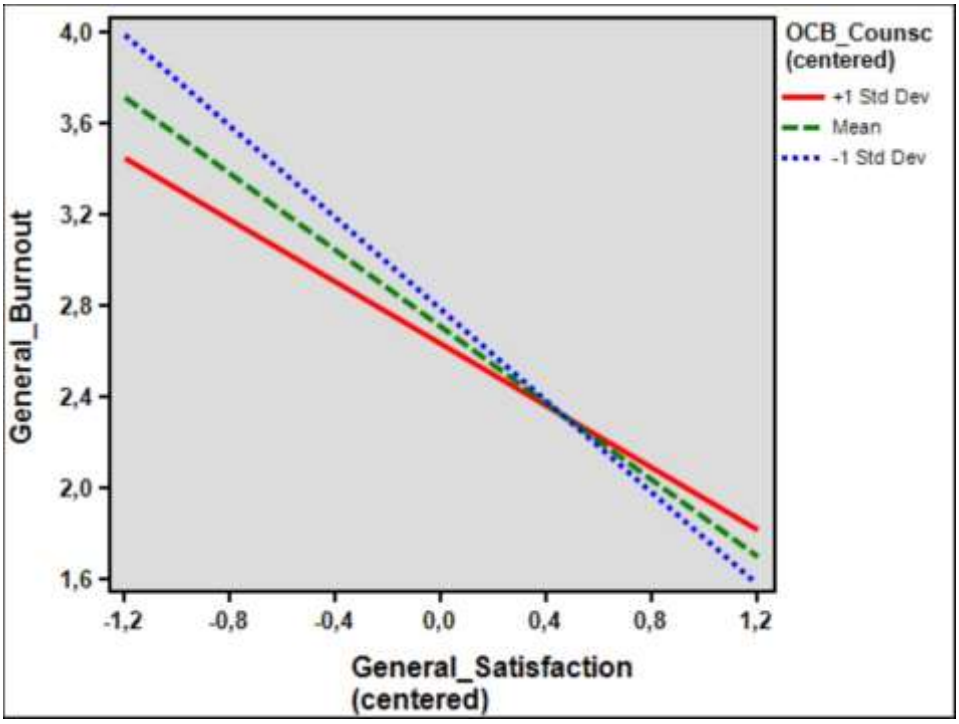
Appendix 2 Attached Figures

Figure-1 Burnout and Job Satisfaction relationship by Altruism



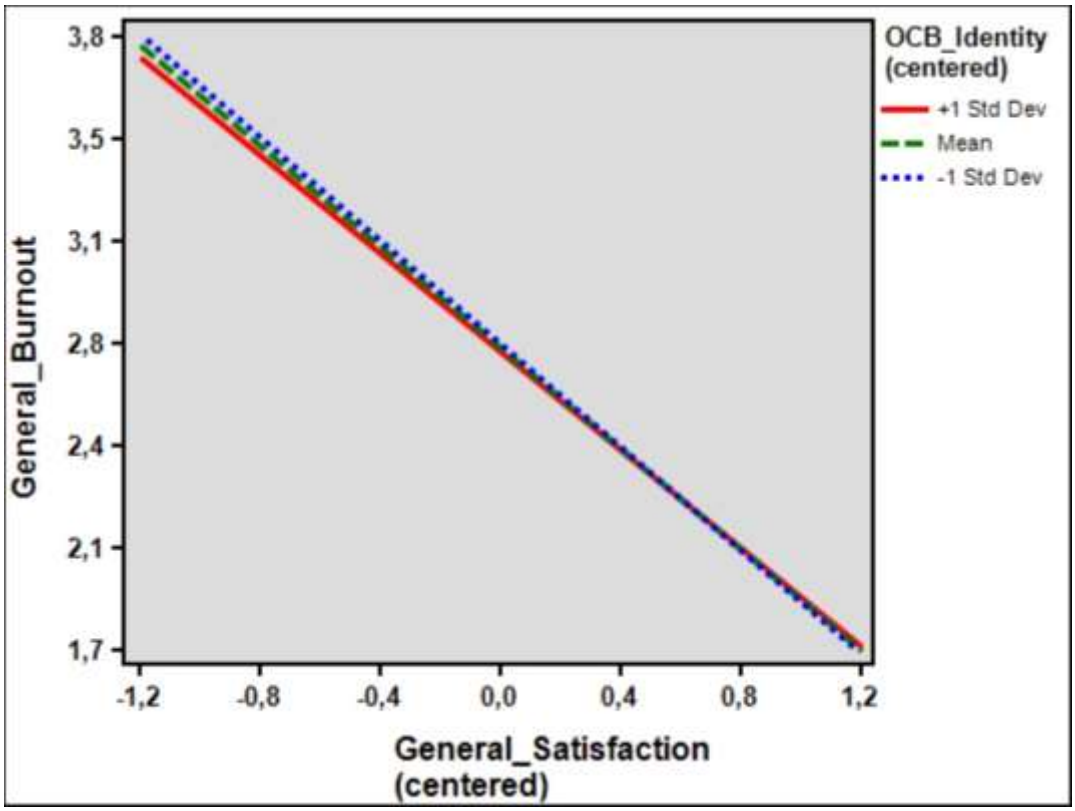
Source: The Author

Figure-2 Burnout and Job Satisfaction relationship by Conscientiousness



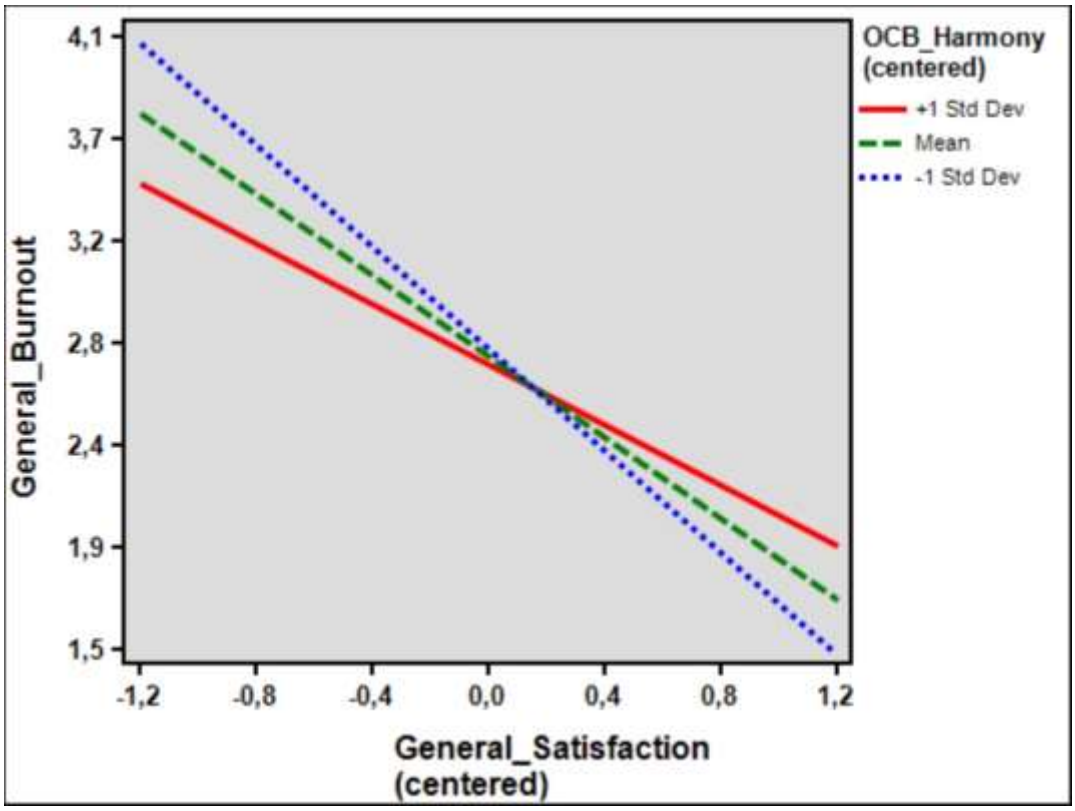
Source: The Author

Figure-3 Burnout and Job Satisfaction relationship by Identity



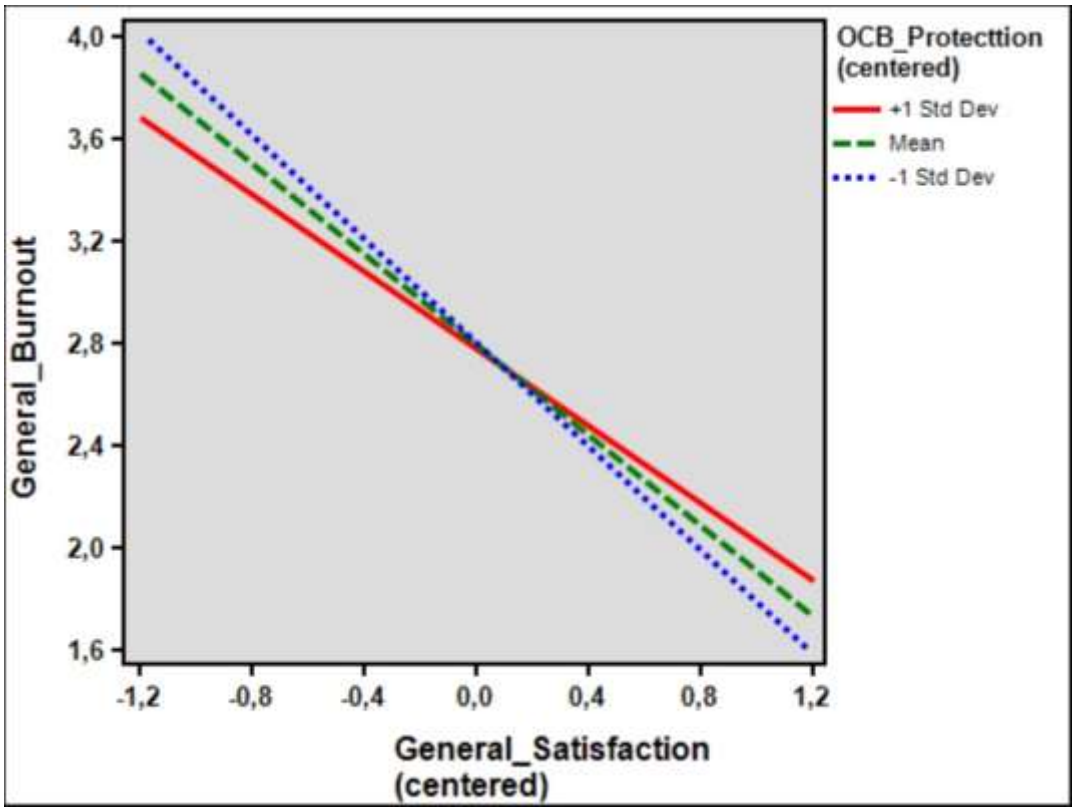
Source: The Author

Figure-4 Burnout and Job Satisfaction relationship by Harmony



Source: The Author

Figure-5 Burnout and Job Satisfaction relationship by Protection



Source: The Author

Appendix 3 Questionnaires on Doctors' Job Satisfaction in Public General Hospitals in Shenzhen

Questionnaire No._____Hospital No._____Organization Level

Dear Colleagues:

In order to understand the work attitude of the doctors working in Shenzhen general public hospitals and the existing problems for the purpose of providing scientific bases for the government and hospital managers to formulate relevant policies on improving doctors' work environment, we have carried out the present research.

The questionnaires will be filled out anonymously; answers will not be judged right or wrong; and the research document will be kept confidential. Please rest reassured. Thanks for your support and kind help.

Wish you health and good luck!

Contact us: Phone: 075586913187, E-mail: lixq@hku-szh.org.

Research Team

★ Notes: Please indicate the answer that most suits your own situation with √. Please do not forget the select the answer.

Basic Information

1. Gender: (1) Male (2) Female
2. Age:____years old
3. Marital Status (1) Single (2) Married (3) Others (i.e. Divorced, widowed etc.)
4. Title: (1) Resident doctor (2) Attending physician
   (3) Associate chief physician (4) Chief physician
5. Education: (1) Technical secondary school graduate or below
   (2) Junior college graduate (3) Bachelor degree holder
   (4) Master degree holder (5) PhD degree holder
6. Department: (1) Department of Internal Medicine (2) Department of Surgery
   (3) Department of Gynecology and Obstetrics
   (4) Department of Pediatrics (5) Department of Orthopedics
   (6) Department of Anesthesiology (7) Emergency Department
   (8) Department of Ophthalmology & Otorhinolaryngology (9) Others

6. Average Monthly Income: (1) ≦5000 Yuan (2) 5001-10000 Yuan
   (3) 10001-15000 Yuan (4) 15001-20000Yuan (5) ≧20001 Yuan
7. Length of Service in the Current Hospital: (1) ≦ 5 Years (2) 6-10 Years
   (3) 11-15 Years (4) 15-20 Years (5) ≧21 Years

Appendix 4 Questionnaire on Job Satisfaction

(Please indicate to what extent you are satisfied with the following aspects of your work with √ under the respective number. "1" represents "highly dissatisfied" and "5" stands for "highly satisfied", with the level of satisfaction increasing from 1 to 5.)

Items (To what extent are you satisfied with your current work?)		**Highly Dissatisfied**	**Dissatisfied**	**Not Sure**	**Satisfied**	**Highly Satisfied**
		1	2	3	4	5
1	Being able to keep busy all the time;	□	□	□	□	□
2	The chance to work independently;	□	□	□	□	□
3	The chance to do different things from time to time;	□	□	□	□	□
4	The chance to be "somebody" in the community;	□	□	□	□	□
5	The way my boss handles his/her workers;	□	□	□	□	□
6	The competence of my supervisor in making decisions;	□	□	□	□	□
7	Being able to do things that don't go against my conscience;	□	□	□	□	□
8	The way my job provides for steady employment;	□	□	□	□	□
9	The chance to do things for other people;	□	□	□	□	□
10	The chance to tell people what to do;	□	□	□	□	□
11	The chance to do something that makes use of my abilities;	□	□	□	□	□

12	The way company policies are put into practice;	□ □ □ □ □
13	My payment and the amount of work I do;	□ □ □ □ □
14	The chances for advancement on this job;	□ □ □ □ □
15	The freedom to use my own judgment;	□ □ □ □ □
16	The chance to try my own methods in doing the job;	□ □ □ □ □
17	The working conditions;	□ □ □ □ □
18	The way my co-workers get along with each other.	□ □ □ □ □
19	The praise I get for doing a good job;	□ □ □ □ □
20	The sense of accomplishment I get from the job;	□ □ □ □ □

Appendix 5 Questionnaire on Organizational Citizenship Behavior

(Please indicate to what extent you agree with the following statements with √ under the respective number. "1" represents "strongly disagree" and "5" stands for "strongly agree", with the level of agreement increases from 1 to 5.)

Assessment Indicators		Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
		1	2	3	4	5
1	Willing to stand up to protect the reputation of the company;	□	□	□	□	□
2	Eager to tell outsiders good news about the company and clarify their misunderstandings;	□	□	□	□	□
3	Make constructive suggestions that can improve the operation of the company;	□	□	□	□	□
4	Actively attend company meetings;	□	□	□	□	□
5	Willing to assist new colleagues to adjust to the work environment;	□	□	□	□	□
6	Willing to help colleagues solve work-related problems;	□	□	□	□	□
7	Willing to cover work assignments for colleagues when needed;	□	□	□	□	□
8	Willing to coordinate and communicate with colleagues;	□	□	□	□	□
9	Often speaks ill of the supervisor or colleagues behind their backs; (R)	□	□	□	□	□
10	Uses illicit tactics to seek personal influence and gain with harmful effect on interpersonal harmony in the organization; (R)	□	□	□	□	□
11	Uses position power to pursue selfish personal	□	□	□	□	□

	gain; (R)	
12	Take credits, avoid blames, and fight fiercely for personal gains; (R)	□ □ □ □ □
13	Conduct personal business on company time (e.g., trading stocks, shopping, going to barber shops); (R)	□ □ □ □ □
14	Use company resources to do personal business (e.g. company phones, copy machines, computers, and cars); (R)	□ □ □ □ □
15	View sick leaves as a benefit and make excuses for taking sick leave; (R)	□ □ □ □ □
16	Often arrive early and start to work immediately	□ □ □ □ □
17	Take my job seriously and rarely make mistakes;	□ □ □ □ □
18	Comply with company rules and procedures even when nobody watches and no evidence can be traced;	□ □ □ □ □
19	Do not mind taking on new or challenging assignments;	□ □ □ □ □
20	Try hard to self-study to increase the quality of work output.	□ □ □ □ □

Appendix 6 Questionnaire on Burnout

(Please indicate the occurrence frequency of the following situation according to your own reality with √ under the respective number. "0" represents "never" and "6" stands for "every day", with the frequency increases from 0 to 6.)

Assessment Indicators		Never	Very Few, A Couple of Times A Year or Less	Sometimes, Once a Month or Less	Quite Often, Several Times a Month	Frequent, Once a Week	Very Frequent, Several Times a Week	Everyday
		0	1	2	3	4	5	6
1	I feel emotionally drained from my work;	□	□	□	□	□	□	□
2	I feel used up at the end of the workday;	□	□	□	□	□	□	□
3	I feel fatigued when I get up in the morning and have to face another day on the job;	□	□	□	□	□	□	□
4	Working with people all day is really a strain for me;	□	□	□	□	□	□	□
5	I feel like I am at the end of my rope;	□	□	□	□	□	□	□
6	I have become more callous towards people since I took this job;	□	□	□	□	□	□	□
7	In my work, I deal with emotional problems very calmly;	□	□	□	□	□	□	□
8	I worry that this job is hardening me emotionally;	□	□	□	□	□	□	□
9	I do not really care what happens	□	□	□	□	□	□	□

	to some recipients;	
10	I can easily create a relaxed atmosphere with my recipients; (R)	□ □ □ □ □ □ □
11	I think contribution I made is valuable for the company; (R)	□ □ □ □ □ □ □
12	I deal very effectively with the problems of my recipients; (R)	□ □ □ □ □ □ □
13	I feel exhilarated after working closely; (R)	□ □ □ □ □ □ □
14	I have accomplished many worthwhile things in this job; (R)	□ □ □ □ □ □ □
15	I can easily understand how my recipients feel about things; (R)	□ □ □ □ □ □ □

Appendix 7 Interview Outline

【Opening Sentences】This interview aims to understand the work attitude of doctors working in Shenzhen municipal public hospitals, discusses the existing problems and reasons, and collect views on various factors. The interview conversation with you will only be used for research purpose. We will keep the records confidential. Please rest reassured and share with us your true opinions. Thanks very much for your cooperation and support!

I. Basic Personal Information

1. Specific Department_____ 2. Title_____ 3. Education

4. Gender___ 5. Age_____ 6. Length of Service

II. Major Problems

1. On the whole, are you satisfied with your current job? Which aspects are you satisfied with? Which aspects are you dissatisfied with?

2. Do you have a sense of identity with and a sense of belonging to your hospital? Can you share with us your views or suggestions on this?

3. Which aspects of your job do you feel stressed about? Will the stress disrupt your normal life?

4. What do you think are the main reasons causing job fatigue? In what aspects do you think efforts can be made to improve the status quo?

5. Since you joined the workforce, what achievements do you think you have made? Do they bring you happiness?

6. Compared with the beginning of your career, do you have any different feelings?

7. From the perspective of doctors' career reality, what do you think are doctors' urgent needs (expectations) right now?

8. What do you think of the current comments on the medical industry and doctors made by the society and public opinions?

III. Do you have any opinion or suggestion for our research?